Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063

February 25, 2000

The Secretary

717-787-2814

[redacted]

FEB 2 9 2000

[redacted]

Bradley M. Campbell
Regional Administrator
U.S. EPA, Region III
Mail Code 3RA00
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Brad:

On January 20, 2000 EPA published in the Federal Register (65 F.R. 3230) a Notice of Adequacy Status concerning emission budgets submitted by Pennsylvania on April 30, 1998. That Notice found the emission budgets inadequate because certain mobile source measures adopted by Pennsylvania and included in Pennsylvania's attainment demonstration for the Philadelphia-Wilmington-Trenton nonattainment area were not included in the conformity motor vehicle emissions budget.

In response to the Notice of Adequacy, please find enclosed a State Implementation Plan (SIP) revision that will update the highway emission budget for the Philadelphia ozone nonattainment area. This update includes the emission reductions resulting from the National Low Emission Vehicle and federal heavy-duty diesel engine programs. This SIP revision was subject to a public hearing and public comment period as required under Section 110 of the Clean Air Act (CAA). There were no public comments, either oral or written, on this SIP revision.

Should you have any questions regarding this SIP submission, please contact James M. Salvaggio, Director, Bureau of Air Quality, at 717-787-9702.

Sincerely,

James M. Seif
Secretary

Enclosure

P.O. #1504152-01 7/24/92*135415

COMMONWEALTH OF PENNSYLVANIA
STD—521 REV. 12-88

PUBLICATIONS AUTHORIZATION AND INVOICE

INVOICE NO. 64737

PUBLICATIONS AUTHORIZATION (To be completed by agency):

TO: (NAME AND ADDRESS OF NEWSPAPER)	FEDERAL I.D. NO./SOC. SEC NO.	FROM: (NAME AND ADDRESS OF AGENCY)	AGENCY TELEPHONE NO
Philadelphia Inquirer 440 N. Broad St. PO Box 8527 Philadelphia, PA 19101 Ad #83MC02300	23-1717558	Sheila Barkey DEP- Air Quality, 12th Fl. 400 Market St. PO Box 8468, Harrisburg, PA 17105-8468	717-787-9427

HEREWITH IS ENCLOSED COPY FOR PUBLICATION OF ADVERTISEMENT FOR PROPOSALS TO
☐ EMPLOY ☐ PURCHASE ☐ CONTRACT ☐ SELL

TYPE OF AD
☐ CLASSIFIED ☑ LEGAL NOTICE

PUBLISH ADVERTISEMENT (NO OF TIMES)	MAXIMUM NO OF LINES	DATE	ORDER NO
3	2 column display ad		

DATES OF INSERTION: August 12, 13 and 14, 1999

SIGNATURE FOR AGENCY: Phyllis Lindsay

You, as vendor, are authorized to publish this advertisement in your newspaper, subject to the terms of this order, as follows: Advertisement to be published in regular advertising columns, no position specified; caption of two lines and signature to be in capitals and subject matter and title of officer to be set solid in type regularly used by your newspaper for public (legal) notice advertising; charge to be made at the rate charged to and paid by commercial advertisers for matter similarly set and occupying similar space; advertisement to be run in the editions specified above. Vendor agrees that, in the performance of any contract awarded to it hereunder, said vendor will not discriminate against any employe or other persons on account of race, color, sex, religious creed, ancestry, age or national origin and that the Commonwealth, upon receipt of satisfactory evidence of such discrimination, shall have the right to cancel said contract. Return this copy at once if you will not accept this advertisement under the terms set forth.

Proof of advertising in the form of a tearsheet must be included on Parts 1, 2 & 3. Return original and two copies (signed by the editor or publisher) to Agency listed above. Part 1 must be notarized. Part 4 is yours.

Commonwealth to be billed only for actual number of printed lines published.

ACCOUNT CODE	FUND	DEPT	APP	YEAR	LDG	ORG	COST FUNCTION	OBJ	AMOUNT
	001	035	790	99	1	2710	06409	325	$ 5,273.52

INVOICE (To be completed by publisher):

	DATE OF INSERTION	ACTUAL NO OF PRINTED LINES	COST PER LINE	TOTAL AMOUNT
1st Ad	8-12-99	2 col x 73 lns 146 lines	$12.04	$ 1757.84
2nd Ad	8-13-99	2 col x 73 lines 146 lines	$12.04	1757.84
3rd Ad	8-14-99	2 col x 73 line 146 lines	$12.04	1757.84
			GRAND TOTAL →	$ 5273.52

Acct #076046202 (Tel. #717-787-4325ZZR)

Commonwealth of Pennsylvania
County of Philadelphia

Before me, the subscriber, a Notary Public in and for said County, personally came Jean E. D'Arciprete who being duly sworn, doth depose and say that he is* Legal Sales Rep the Philadelphia Inquirer a general newspaper published at 400 N. Broad St. that the advertisement, of which tearsheet is attached hereto, was published in the regular advertising columns of said newspaper, in the editions of said newspaper, in all respects as ordered and invoiced above; and that the Commonwealth is not charged therefor at a rate higher than is charged any ordinary commercial advertiser for a similar amount of matter occupying similar space and set in a similar manner, in said newspaper.

Sworn and subscribed before me this 16th day of August 19 99

Margaret C Ruckdeschel
NOTARY PUBLIC

My commission expires May 27, 2002

NOTARIAL SEAL

Jean E. D'Arciprete
SIGNATURE OF AFFIANT

*This affidavit must be made by the Owner, Publisher, or the duly authorized agent of the owner or publisher.

PO #1504152-01 7/24/92*135415

COMMONWEALTH OF PENNSYLVANIA
STD—521 REV. 12-88

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IMPLEMENTATION PLAN FOR OZONE FOR THE PHILADELPHIA OZONE NONATTAINMENT AREA

Public Hearing

Ground-level ozone concentrations above the federal health-based standard are dangerous to human health, impair vegetation and can also cause damage to crops, forests and wildlife. The Department of Environmental Protection is seeking public comment on a state implementation plan (SIP) revision for the Philadelphia ozone nonattainment area (Bucks, Chester, Delaware, Montgomery and Philadelphia counties) which reduces volatile organic compounds (or equivalent) by [illegible] from 1999 through 2005 and [illegible] health-[illegible]

[illegible] EPA and establishes new [illegible] of transportation [illegible] control measures which will be put in place by the attainment year and which are [illegible] the air quality attainment demonstration (last submitted to EPA on August 21, 1998). The proposed SIP thus includes emission reductions attributable to the National Low Emission Vehicle program already in place and additional federal heavy-duty engine standards effective 2004. These strategies were not included in the motor vehicle emissions inventory originally submitted to EPA on April 30, 1998.

This proposal is available on the DEP Website, at http://www.dep.state.pa.us (choose Information by Subject/Air Quality/State Implementation Plans), or through the contact person(s) listed below.

The Department will hold a public hearing to receive comments on the SIP revision on **Friday, September 17, 1999 at 1:00 p.m.** at the offices of the Delaware Valley Regional Planning Commission, The Bourse Building, 8th Floor, (use 4th Street side elevators), 111 S. Independence Mall East, Philadelphia.

Persons wishing to present testimony at the hearing should contact Shiela Bailey, 717-787-9495 (P.O. Box 8468, Harrisburg, PA 17105) to reserve a time. If you do not reserve a time, you will be able to testify after pre-registrants. Witnesses should keep testimony to 10 minutes and should provide two written copies at the hearing. Persons with a disability who wish to attend the hearing and require an auxiliary aid, service or other accommodation to participate in the proceeding should contact Wick Havens at the telephone above. TDD users may contact the AT&T Relay Service at 800-654-5984 to discuss how the Department can best accommodate their needs.

Written comments should be sent to Arleen Shulman, Chief, Mobile Sources, Bureau of Air Quality, P.O. Box 8468, Harrisburg, PA 17105-8468 no later than close of business on September 20, 1999.

[illegible] IMPLEMENTATION PLAN FOR OZONE [illegible] PHILADELPHIA OZONE NONATTAINMENT AREA

Public Hearing

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Commonwealth of Pennsylvania
Department of Environmental Protection

State Implementation Plan (SIP) Revision For the Philadelphia Ozone Nonattainment Area

January 2000

Division of Air Resource Management
Bureau of Air Quality
Pennsylvania Department of Environmental Protection
PO Box 8468
Harrisburg, PA 17105-8468
717-787-9495
J. Wick Havens, Chief

www.dep.state.pa.us

Proposed
State Implementation Plan (SIP) Revision
For the Philadelphia Ozone Nonattainment Area

August 1999

TABLE OF CONTENTS

What Is Ozone?

Ozone levels above the health-based standard (national ambient air quality standards) are a serious human health threat, and also can cause damage to important food crops, forests, and wildlife. Ozone in the troposphere, also called ground-level ozone, should not be confused with stratospheric ozone – located in the upper atmosphere – which protects the earth by blocking out damaging solar radiation.

Ozone is not emitted directly to the atmosphere, but is formed by photochemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) in the presence of sunlight. The long, hot, humid days of summer are particularly conducive to ozone formation, so ozone levels are of general concern during the months of May through September.
The primary sources of man-made VOCs and NO_x, the ozone precursors, are the evaporation of fuels and solvents (gasoline and consumer products), combustion of fuels (motor vehicles, power plants, and other industries), and chemical and industrial processes. The Philadelphia Metropolitan area still exceeds the one-hour health-based standard for ozone during the summer.

Why This State Implementation Plan (SIP) Revision?

Pennsylvania is responsible for developing state implementation plans (SIPs) for air quality for the five Pennsylvania counties of the Philadelphia interstate ozone nonattainment area -- Bucks, Chester, Delaware, Montgomery and Philadelphia counties. Pennsylvania submitted its required post-1996 rate-of-progress and attainment plans in several documents during 1998.

The Clean Air Act Amendments (Section 176c) provides a mechanism by which federal funded or approved highway and transit plans, programs and projects are determined not to produce new air quality violations, worsen existing violations or delay timely attainment of national air quality standards. EPA regulations issued to implement transportation conformity provides that motor vehicle emission "budgets" establish caps of these emissions which cannot be exceeded by the predicted transportation system emissions in the future. Transportation agencies in Pennsylvania are responsible for making timely transportation conformity determinations. The Delaware Valley Regional Planning Commission holds that responsibility for the Philadelphia area.

During 1999, EPA began and will soon conclude negotiations as a result of litigation by the Natural Resources Defense Council. As a result, EPA has drafted and will soon finalize new guidance for adequate highway vehicle emission budgets. This policy requires, among other things, that the budgets must include the effects of all motor vehicle controls that will be in place by the attainment year, including federal measures. These control measures must be specifically identified and their emission reductions must be quantified.

Pennsylvania's previous SIP submissions did not include the effects of two federal motor vehicle control measures: more stringent standards for heavy-duty engines and the National Low Emission Vehicle Program. This SIP revision identifies and quantifies the additional emission reductions expected from those measures and revises the transportation conformity budgets accordingly.

Revised Highway Vehicle Emission Estimates

Summary tables of emissions from all sectors are provided for the reader's convenience. However, only the highway vehicle emissions have changed from previous SIPs and are subject to public comment. Tables 1a and 1b project what emissions would be for each milestone year to 2005 if no post-1990 emission controls were in effect. These inventories are called "uncontrolled" inventories.

Table 1a: VOC Emissions Before Controls
(identical to previous SIP)

	1999	2002	2005
Point	162	166	169
Area	203	205	207
Nonroad	83	83	84
Highway Vehicle	*177*	*180*	*187*
TOTAL	**625**	**634**	**647**

Table 1b: NOx Emissions Before Controls
(identical to previous SIP)

	1999	2002	2005
Point	177	182	187
Area	47	47	47
Nonroad	74	75	75
Highway Vehicle	*156*	*157*	*160*
TOTAL	**454**	**461**	**469**

Pennsylvania will reduce emissions from the strategies listed in Tables 2a and 2b with the VOC and NOx reductions expected. Only emission projections from highway vehicle control strategies have changed from previous SIP submissions. Other strategies are provided for the reader's convenience.

Table 2a: VOC Reduction Measures By Year (1999-2005)

	1999	2002	2005
Fed. Motor Vehicle Control Program	*6.95*	*13.12*	*20.35*
Enhanced Vehicle Inspection/Maintenance	*58.69*	*61.44*	*65.38*
Fed. Reformulated Gasoline	*22.56*	*35.24*	*36.59*
Reasonably Available Control Technology	9.82	10.11	10.42
Rule Effectiveness for Point Sources	15.93	16.17	16.45
Shutdowns	2.38	2.59	2.79
Fed. Architectural/Industrial Maintenance Coatings	7.33	7.38	7.43
Fed. Autobody Refinishing	6.01	6.07	6.12
Fed. Consumer Products	6.64	6.71	6.77
Stage II Vapor Recovery/Onboard	17.71	19.82	21.25
Fed. Waste Treatment Storage Disposal	9.52	9.61	9.70
Fed. Spark Ignition (Small Nonroad) Engines	0.00	0.00	15.79
National Low Emission Vehicles	*0.00*	*1.01*	*2.85*
TOTAL (rounded to nearest ton)	**164**	**189**	**222**

Table 2b: NOx Reduction Measures By Year (1999-2005)

	1999	2002	2005
Fed. Motor Vehicle Control Program	*14.11*	*22.59*	*27.36*
Enhanced Vehicle Inspection/Maintenance	*32.22*	*32.73*	*33.89*
Fed. Reformulated Gasoline	*0.47*	*7.17*	*7.45*
Reasonably Available Control Technology	5.63	5.74	5.82
NOx Allowance Requirements	27.37	30.82	34.20
Shutdowns	1.47	1.21	0.94
Fed. Compressed Ignition (Diesel Nonroad) Engines	0.00	0.00	44.00
National Low Emission Vehicles	*0.00*	*1.69*	*4.71*
Heavy-Duty Diesel Engine Standard	*0.00*	*0.00*	*0.38*
TOTAL (rounded to nearest ton)	**81**	**102**	**159**

Note that several national programs have been adopted by EPA but their implementation dates are in the future. For example, the heavy-duty diesel engine standard does not take effect until the 2004 model year, so its effect in 2005 will be very small. Similarly, the National Low Emission Vehicle program's reductions depend on older vehicles being replaced by newer cleaner vehicles; only about one-tenth of the fleet is replaced each year.

Emissions of VOC and NOx after these controls are applied are summarized in Tables 3a and 3b. A graphic comparison of emissions by sector before and after controls follows the tables.

Table 3a: VOC Emissions After Controls

	1999	**2002**	**2005**
Point	134	137	139
Area	156	156	156
Nonroad	83	83	68
Highway Vehicle	*89*	*70*	*62*
Totals (rounded to nearest ton)	**462**	**446**	**425**

Table 3b: NOx Emissions After Controls

	1999	**2002**	**2005**
Point	143	144	146
Area	47	47	47
Nonroad	74	75	31
Highway Vehicle	*109*	*93*	*86*
Totals (rounded to nearest ton)	**373**	**359**	**310**

In its previous submissions, Pennsylvania estimated that it would achieve more than enough reductions in VOC-equivalent emissions to meet Clean Air Act rate of progress requirements in all milestone years. With the additional credit from the federal heavy-duty engine standards and National Low Emission Vehicle program, Pennsylvania will increase its margin of safety.

Chart 1a: VOC emissions by year

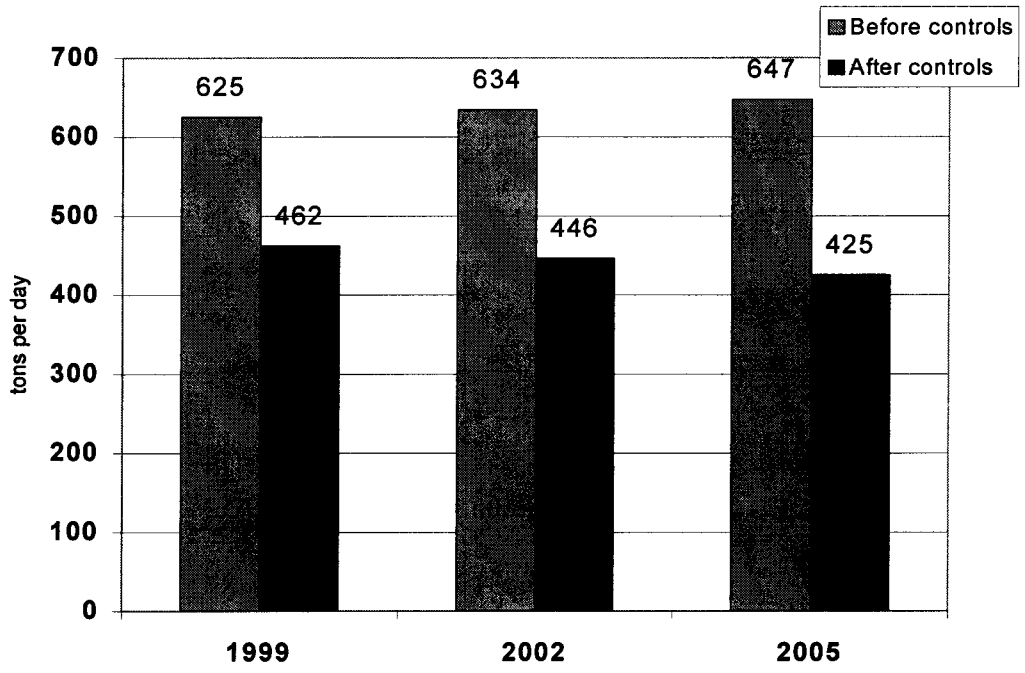
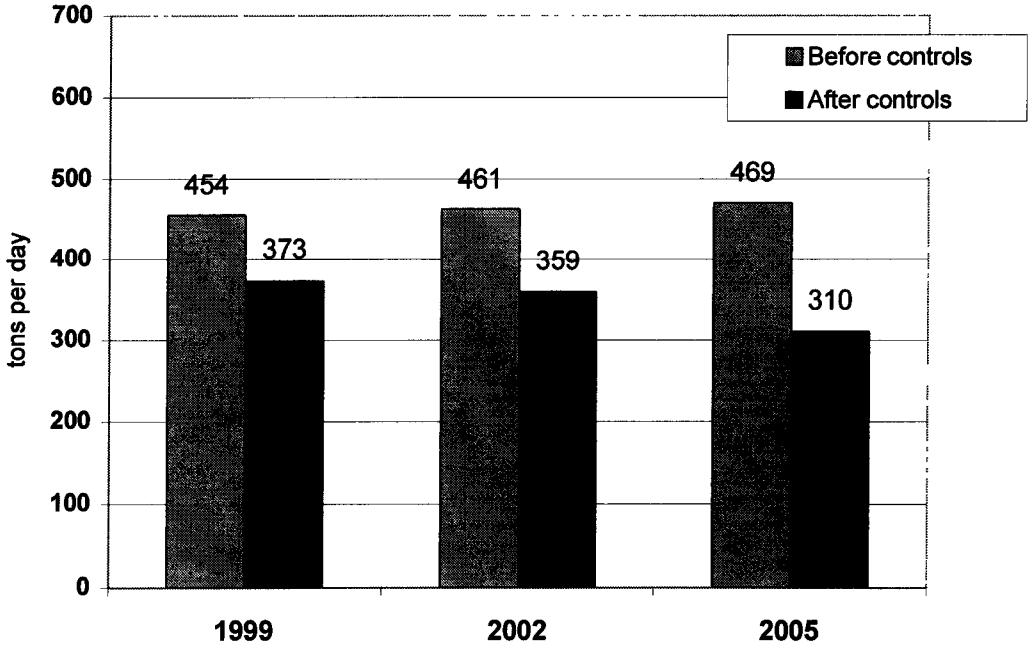


Chart 2a: NOx emissions by year



Motor Vehicle Emission Budgets for Transportation Conformity

The emission budgets established by this document are identical to the highway vehicle inventories described above. Vehicle miles travelled and average speeds for the five-county area remain unchanged from previous submissions. Emissions are reduced because of the additional control strategies quantified.

Table 4: Motor Vehicle Emission Budgets

POLLUTANT	1999	2002	2005
VOC			
Kilograms/summer day	80,435	63,038	56,027
Tons/summer day	88.66	69.52	61.76
NOx			
Kilograms/summer day	99,431	84,487	78,400
Tons/summer day	109.60	93.13	86.42

The following information is available in Appendix C to document establishment of the highway vehicle emissions inventories and the transportation conformity budgets:

- Summary VMT, VOC and NOx inventories and forecasts by county
- Modeling parameters
- Control strategy emissions component breakdown
- VMT, VOC, CO and NOx inventory and forecast emissions by county by functional class
- VMT, VOC, CO and NOx inventory and forecast emissions by county by vehicle type
- MOBILE input files for milestone year control strategy scenarios

APPENDICES

- **Appendix A: Description of Additional Control Measures**
- **Appendix B: Highway Emissions Methodology**
- **Appendix C: Summary Tables and Documentation for Highway Vehicle Inventories**

APPENDIX A: DESCRIPTION OF ADDITIONAL CONTROL MEASURES

Heavy-Duty Engine Controls

In October 1997, EPA adopted new standards for NOx and hydrocarbons for model year 2004 and later heavy-duty diesel engines used in trucks and buses. According to EPA, the new standard represents a 50 percent reduction in NOx from the 1998 and later model year NOx standard.

The standards are in the form of combined non-methane hydrocarbons (NMHC) plus NOx and are presented in units of grams emitted per brake horsepower-hour (g/bhp-hr). Manufacturers have the choice of certifying their engines to either of two optional sets of standards: 2.4 g/bhp-hr NMHC + NOx or 2.5 g/bhp-hr NMHC + NOx with a limit of 0.5 g/bhp-hr on NMHC. EPA's program also includes provisions to further encourage engine manufacturers to use emission controls with a high degree of durability. The program includes averaging, banking and trading to provide flexibility to engine manufacturers and increase cost-effectiveness of the program.

EPA issued guidance on January 30, 1998 on how to incorporate these standards in highway vehicle emission inventories using Mobile 5a. In EPA's analysis of the emission impacts of the new standard and the technologies which are likely to be employed to meet that standard, EPA has deemed it reasonable to model the impact of the combined standard as equivalent to that of a distinct 2.0 g/bhp-hr NOx standard and a 0.5 g/bhp-hr NMHC standard. The guidance has been followed in preparation of this SIP revision.

National Low Emission Vehicle (NLEV) Program

The NLEV program was developed through a cooperative effort by the Ozone Transport Commission states, auto manufacturers, EPA and other interested parties. NLEV vehicles are approximately 70 percent cleaner than previous models. It applies to vehicles up to 6,000 pounds gross vehicle weight. The program took effect with model year 1999 cars in Pennsylvania and other Northeastern states and will be applicable to most of the country with model year 2001 vehicles. (California, Massachusetts, New York and Maine have their own programs.).

EPA declared the program to be in effect on March 9, 1998 after preliminary commitments by states and automakers to participate. Pennsylvania finalized its regulation on Pennsylvania Bulletin on December 5, 1998 and submitted the required SIP on January 8, 1999.

This SIP follows EPA's July 1998 guidance on how to incorporate NLEV into highway vehicle emission estimates.

APPENDIX B: HIGHWAY VEHICLE EMISSION METHODOLOGY

Other than those discussed below, planning assumptions and modeling tools remain consistent with the previous Phase I and Phase II SIP submittals for the Philadelphia 5-county area. Changes are described in the section below. A description of Pennsylvania's highway vehicle emission inventory preparation methodology is also included, with updated references.

Changes to Modeling Methodology and Input Parameters

Two additional control strategies have been added to the planning assumptions for the Philadelphia area: the new 2004 NOx standard for heavy-duty diesel engines (HDE) and the national low emission vehicle (NLEV) standard for light-duty gasoline-fueled vehicles. The impacts of the new control strategies are provided in the Control Strategy Breakout Tables. In addition, the methodology to calculate the NOx benefit of reformulated gasoline (RFG) has been revised slightly based on US EPA guidance released in September 1998. Other planning assumptions and methodologies remain consistent with previous SIP submittals for the Philadelphia 5-county ozone non-attainment area. The complete input parameters are provided in Tables 1a-e of the MOBILE Input Parameters Section.

Heavy-Duty Engines. A new HDE NOx standard was promulgated in October 1997 that combined emission standards of NOx and non-methane hydrocarbons (NMHC) from model year 2004 and later heavy-duty diesel engines used in trucks and buses. Manufacturers of such engines have the choice of certifying their new engines to either a 2.4 g/bhp-hr NMHC plus NOx standard, or to a 2.5 g/bhp-hr NMHC plus NOx standard with a limit of 0.5 g/bhp-hr on NMHC.

In the release of the modeling guidance for the 2004 HDE NOx standard, EPA also updated basic emission rates for model years 1990 and newer HDE. These rates provide a more accurate assessment of HDDV emissions and are included in the MOBILE5b version of the model. However, using version MOBILE5a_H, the emission rates for HDE model years 1990 to 2003 must be added to the base year emission factors using the guidance outlined by EPA. For the control strategy breakout, the new emission rates were incorporated into modeling.

National Low Emission Vehicle Program. The NLEV program is a voluntary program agreed upon by Pennsylvania, the northeastern states and the auto manufacturers. New cars and light duty trucks up to 6,000 pounds gross vehicle weight will meet tailpipe standards that are more stringent then EPA can mandate prior to model year 2004. Now that the program is agreed upon, these standards will be federally enforced. Pennsylvania submitted a separate SIP revision upon adoption NLEV program regulations (Pennsylvania Code Title 25, Chapter 126). New vehicles meeting the NLEV standard were available in Pennsylvania (and several other northeastern states) with the 1999 model year and will be available nationally with the 2001 model year. An accurate methodology to quantify NLEV reductions was not available when the Philadelphia SIP was originally submitted in April 1998.

Phase II Reformulated Gasoline. The MOBILE5aH model version does not provide NOx credit for Phase II RFG starting in the year 2000. To calculate the NOx benefit for RFG, MOBILE5b results are used to adjust the emissions results of the MOBILE5aH inventory. Based on EPA guidance, the difference in NOx emissions is divided by the MOBILE5b results without RFG to establish the fractional NOx RFG benefit. The fractional NOx benefit is multiplied by

the NOx emissions based on MOBILE5aH to determine the NOx emission benefit from RFG. The previous submission, made before EPA guidance was provided in September 1998, did not include the fractional NOx benefit.

A sample calculation is provided below:

Example: RFG NOx Benefit Calculation

Bucks County 2005

MOBILE5aH Emissions Results =	26.02 tpd
MOBILE5b run without RFG =	27.95 tpd
MOBILE5b run with RFG =	26.30 tpd
Difference (5b w/ RFG – w/o RFG) =	-1.65 tpd
Fractional NOx Benefit (1.65 / 27.95) = .059	
RFG NOx Benefit (MOBILE5aH x .059) =	**-1.53 tpd**

PPAQ (Post-Processor for Air Quality). The PPAQ software system has gone through several updates to refine the software and increase its capability and flexibility. The current version is PPAQ3.28. Changes that affect the calculated emissions include the following:

- The diurnal emission calculation procedure now properly allocates diurnal emissions to time periods. This results in small changes in overall diurnal emission quantities.

The other changes to the PPAQ software system do not result in speed or emission calculation changes and instead simply increased the capability and flexibility of the software system.

Technical notes for this SIP revision

US EPA's MOBILE Model. The modeling was performed using EPA's approved MOBILE model, version MOBILE5a_H. The 5a_H version is an enhanced version of MOBILE5a that provides additional emissions credits for hybrid I/M programs and technician training and certification (TTC). The TTC credits are applied to Philadelphia and Pittsburgh areas that have implemented enhanced I/M programs. Pennsylvania requires all inspectors to be certified to perform an emissions inspection.

I/M Credit Data Files. EPA periodically updates their I/M credit files as new cutpoints are established. The new files can be easily downloaded from the EPA OMS or TNN websites. EPA's latest I/M credit data file for Tech IV+ vehicles (1981+ model years) is the IMDATA4.D. This file contains cutpoints for both final and start-up, and one and two mode ASM I/M

programs. The single mode ASM5015 final cutpoints were used to represent Philadelphia's PA97 with ASM I/M program. The I/M credit file for Tech I and II vehicles (pre-1981 model years) is TECH12.D

Philadelphia 5-County Area – PA97 with ASM I/M Program. The PA97 with ASM program includes an ASM testing procedure (1981 MY and newer), idle test (1975 – 1980 MY), anti-tampering (1975 and newer MY), full pressure and purge (1981 and newer MY), and the gas cap pressure check (1975 to 1980 MY). All five counties (Bucks, Chester, Delaware, Montgomery and Philadelphia) are included in the program.

Modeling this area requires two scenarios, since the gas cap pressure check cannot be modeled directly with MOBILE. The first scenario is modeled with two I/M programs (one for the idle test for pre-81 model years and the second with ASM for model years 1981 and newer), anti-tampering (1975 and newer), EPA pressure and purge (1981 and newer). In the second scenario, the EPA pressure test is modeled to reflect 1975 and newer model years. This accounts for the gas cap pressure check for 1975 and 1980 vehicles. The resultant emissions are determined by crediting 40% of the pressure check credit using the following equation.

Example: Calculating the Gas Cap Pressure Check

tpd w/ gas cap credit = tpd w/o gas cap – [(tpd w/o gas cap – tpd w/ gas cap) x 40%]

14.41 tpd = 14.65 – (14.65 – 14.05) x 40%

tpd = Tons per Day

Vehicle Age Distributions. Vehicle age distributions are input to MOBILE for each county based on registered vehicles that reflect July 1 summer conditions. These distributions reflect the percentage of vehicles in the fleet up to 25 years old and are listed by the eight EPA vehicle types. The updated vehicle age distributions have been acquired for this inventory submission from PennDOT Bureau of Motor Vehicles Registration Database. The modeling utilizes vehicle age distributions from July 1993.

Temperatures. The minimum, maximum and ambient temperatures were provided by the nearest weather station for each of the air quality districts for an average July summer day. These temperatures are the same as those that were used for the 1990 inventories.

Pennsylvania's Highway Vehicle Emissions Inventories for Ozone NonAttainment Area SIPS:

An Explanation of Methodology

Prepared for:

Mobile Sources Section, Bureau of Air Quality
Pennsylvania Department of Environmental Protection
PO Box 8468
Harrisburg, PA 17105-8468

Air Quality Section
Pennsylvania Department of Transportation
6th floor Forum Place, 555 Walnut Street
Harrisburg, PA 17101-1900

Prepared by:

Michael Baker, Jr., Inc.
180 Admiral Cochran Drive Suite 210
Annapolis, MD

Garmen Associates
150 River Road, Building E
Montville, NJ

INTRODUCTION

The purpose of this document is to explain how Pennsylvania estimates emissions from highway vehicles for inclusion in its emission inventories and State Implementation Plans.

Overview of Emissions Inventories

Under the Clean Air Act Amendments of 1990, Pennsylvania is required to develop emission inventories for ozone precursors -- volatile organic compounds (VOC) and nitrogen oxides (NOx). A baseline 1990 inventory was required statewide. Two ozone nonattainment areas in Pennsylvania have also been required to achieve US EPA specified minimum percentage reductions in VOC: the seven-county Pittsburgh area and the five-county Philadelphia area. For these areas, projected inventories, both with and without anticipated control strategies, have been prepared for several "milestone" years. Finally, states must develop periodic inventories to "refresh" the 1990 inventory, using updated data and/or estimation methods.

Pennsylvania's inventories generally categorize emissions into four categories:

- highway vehicles
- stationary sources (major industrial, commercial and utility sources)
- area sources (smaller industrial/commercial sources, consumer products)
- nonroad mobile sources (including construction and agricultural equipment, lawn and garden equipment)

Of all of the sources of air pollution, only the emissions of some stationary sources are measured directly and continuously through instrumentation. Emissions from all other sources must be estimated in some fashion, including those from highway vehicles. In their very simplest form, estimates of emissions follow the following pattern:

Emission rate x activity level = emissions per time period (usually day or year)

Most emission rates have been developed by EPA, in cooperation with industry and states, over many years and are compiled and documented in a reference volume, Compilation of Air Pollution Emission Factors (AP-42).

For example, the annual VOC emissions from residential fuel oil heating could be estimated by:

AP-42 emission rate	*x*	*activity level*	=	*emissions*
0.713 pounds/gallon	*x*	# dwelling units *x* % using oil *x* # gallons per unit		# pounds of VOC per year

Adding up the products of the emission rates and activity levels for all sources of a given pollutant constitutes the emission inventory for that pollutant.

Highway Vehicle Emission Inventories

Highway vehicles contribute significantly to air pollution, particularly to ground-level ozone, which is the most persistent air pollutant in Pennsylvania. Ozone is not created directly but formed in sunlight from VOCs and NOx. Both VOCs and NOx are emitted from highway vehicles. Pennsylvania's ozone-related emission inventory efforts have been focused on these pollutants.

Obviously, direct measurement of emission levels from all vehicles in use is impossible. In comparison to highway vehicles, estimating residential heating emissions is a fairly simple calculation because there is a constant emission rate and a fairly simple measure of activity. For highway vehicles, however, estimating the emission rate and activity levels of all vehicles on the road during a typical summer day is a complicated endeavor.

If every vehicle emitted the same amount of pollution all the time, one could simply multiply those emission standards (emission rate in grams of pollution per mile) times the number of miles driven (activity level) to estimate total emissions. But, the fact is that emission rates from all vehicles vary over the entire range of conditions under which they operate. These variables include air temperature, speed, traffic conditions, operating mode (started cold? started warm? running already warmed up?) and fuel. The inventory must also account for non-exhaust or evaporative emissions. In addition, the fleet is composed of several generations, types of vehicles and their emission control technologies, each of which performs differently. This requires that the composition of the fleet (vehicle ages and types) must also be included in the estimation algorithm.

In order to estimate both the rate at which emissions are being generated and to calculate vehicle miles traveled (activity level), Pennsylvania examines its road network and fleet to estimate vehicles activity. For ozone-related inventories, this is done for a typical summer (July) weekday. Not only must this be done for a baseline year, but it must also be projected into the future. This process involves a large quantity of data and is extremely complex.

Computer models have been developed to perform these calculations by simulating the travel of vehicles on the Commonwealth's roadway system. These models then generate emission rates (also called emission factors) for different vehicle types for area-specific conditions and then combine them in summary form. The "area-specific conditions" include vehicle and highway data, plus control measure characteristics and future year projections of all variables.

MOBILE. The heart of the highway vehicle emission calculation procedure is EPA's highway vehicle emission factor model, MOBILE. This is a FORTRAN program that calculates **average** in-use fleet emission factors for ozone precursors for each of eight categories of vehicles under various conditions affecting in-use emission levels (e.g., ambient temperatures, average traffic speeds, gasoline volatility) as specified by the model user. MOBILE produces the "emission rates" referred to in the previous section.

The model was first developed as MOBILE1 in the late 1970s, and has been periodically updated to reflect the collection and analysis of additional emission factor data over the years, as well as changes in vehicle, engine and emission control system technologies, changes in applicable regulations, emission standards and test procedures, and improved understanding of in-use

emission levels and the factors that influence them. Pennsylvania is currently using MOBILE5a_H as approved by EPA.

PPAQ. Pennsylvania also uses the Post Processor for Air Quality (PPAQ), which consists of a set of programs that perform the following functions:

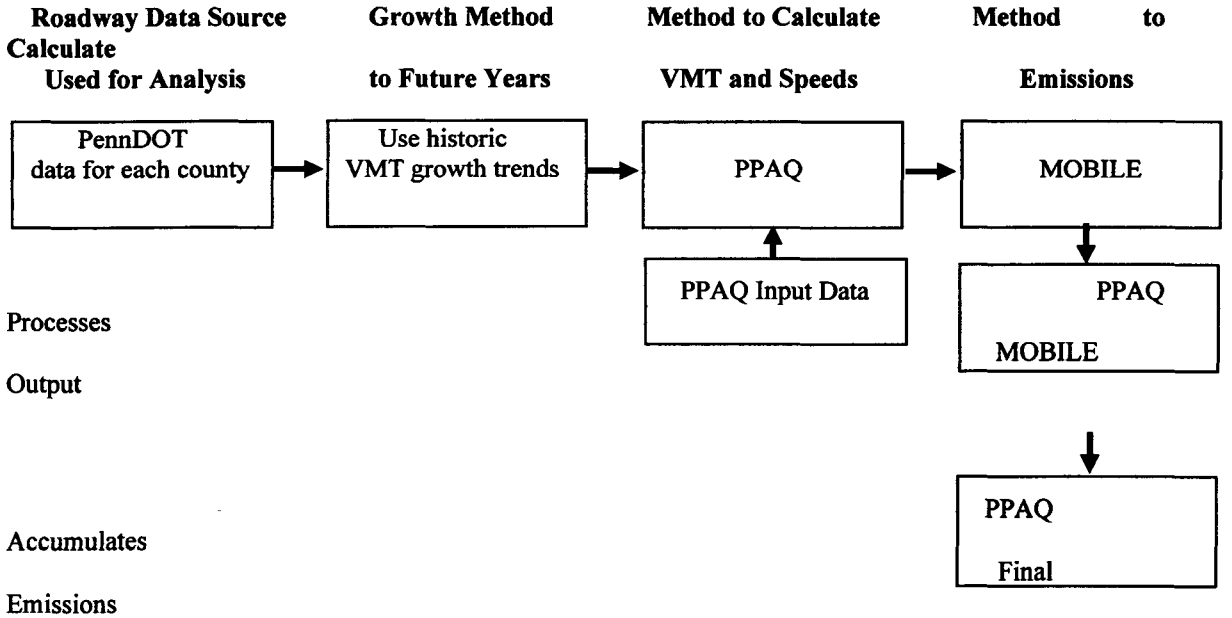
- Analyzes highway operating conditions
- Calculates highway speeds
- Compiles vehicle miles of travel (VMT) and vehicle type mix data
- Prepares MOBILE runs
- Calculates emission quantities from output MOBILE emission rates and accumulated highway VMT.

PPAQ has become a widely used and accepted tool for estimating speeds and processing MOBILE emission rates. It is currently being used for the New York City region, for the north and south New Jersey regions, and in other states including Louisiana, Virginia, and Indiana. The software is based upon accepted transportation engineering methodologies. For example, PPAQ utilizes speed and delay estimation procedures based on planning methods provided in the 1994 Highway Capacity Manual, a report prepared by the Transportation Research Board (TRB) summarizing current knowledge and analysis techniques for capacity and level-of-service analyses of the transportation system.

These two computer programs interact as shown in Exhibit 1.

Exhibit 1

Emission Calculation Process for Pennsylvania



WHERE DOES PENNSYLVANIA OBTAIN ITS DATA?

Data Used in MOBILE

Two major types of information are written into the MOBILE model by EPA: basic emission rates and travel weighting rates. EPA's Office of Mobile Sources obtains this information from a number of sources, including its new vehicle certification program, in-use vehicle random sample studies and special studies (including information from some state I/M programs). For more information on MOBILE, a users guide and various documents (as well as the model itself) are available through EPA's website (http://www.epa.gov/OMSWWW/models.htm).

Basic emission rates are those which are produced under very standardized conditions. The model then modifies (corrects and/or weights) these rates based on other model or input parameters. Rates are incorporated for model year and vehicle type. MOBILE also calculates an assumed amount of increase in emissions as vehicles accumulate mileage.

In addition to exhaust emissions, evaporative VOC emission sources from gasoline-powered vehicles are also included[1]:

- diurnal emissions (evaporated gasoline emissions generated by the rise in temperature over the course of a day when the vehicle is not being driven),
- hot soak emissions (evaporated gasoline emissions occurring after the end of a vehicle trip, due to the heating of the fuel, fuel lines, fuel vapors),
- running loss emissions (evaporated gasoline emissions occurring while a vehicle is driven, due to the heating of the fuel and fuel lines),
- resting loss emissions (small but continuous seepage and minor leakage of gasoline vapor through faulty connections, permeable hoses and other materials in the fuel system).

Evaporative emissions are very dependent on temperature and fuel volatility as well as vehicle model year.

Travel Weighting Fractions. Research has found that newer cars tend to be driven more. The model reflects this, using state-specific vehicle age distributions from registration data. The model also contains assumptions about trips per day and miles per day by age of the vehicle. This is important for exhaust emissions because these emissions are greater when the vehicle is not warmed up (cold start). Also, this information helps characterize evaporative emissions.

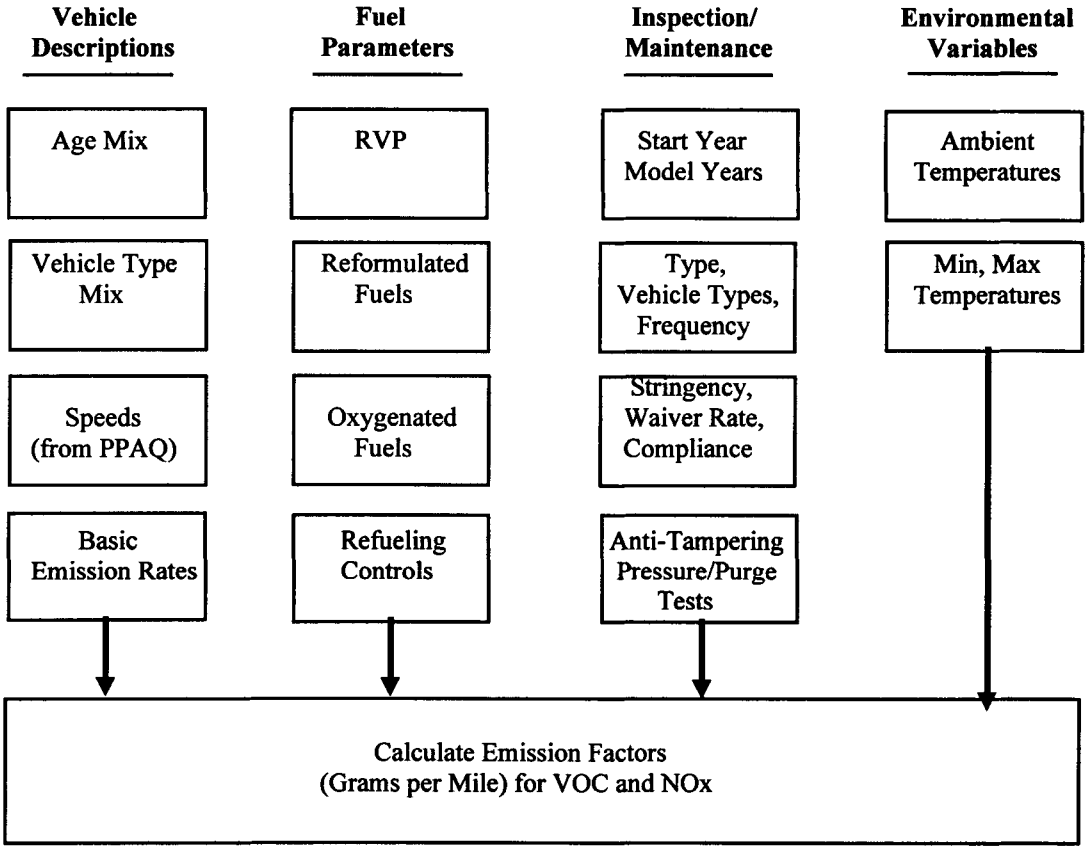
[1] Some states use MOBILE to estimate refueling emissions (gasoline vapor emissions generated by the refueling of vehicles, where in the absence of controls the vapor in the vehicle fuel tank is displaced by the incoming liquid fuel and released to the atmosphere). Pennsylvania handles these emissions in the area source inventory.

What Are The Necessary Data Inputs to MOBILE?

A large number of inputs to MOBILE are needed to fully account for the numerous vehicle and environmental parameters that affect emissions including traffic flow characteristics (as determined from the PPAQ software), vehicle descriptions, fuel parameters, inspection/maintenance program parameters, and environmental variables as shown in Exhibit 2. With some input parameters, MOBILE allows the user to choose default values, while others require area-specific inputs.

Exhibit 2

MOBILE Inputs



For an emissions inventory, area specific inputs are used for all of the inputs shown in Exhibit 2 except for the basic emission rates, which are MOBILE defaults. In addition, Pennsylvania uses MOBILE default cold and hot start fractions (20.6 and 27.3 percent). A vehicle will generate more emissions when it is first operated (cold start). It generates emissions at a different rate when it is stopped and then started again within a short period of time (hot start). Cold/hot start fractions reflect what percent of the VMT was accrued after a cold start and after a hot start.

Vehicle Descriptions. Vehicle age distributions are input to MOBILE for each county based on registered vehicles reflecting July 1 summer conditions. These distributions are obtained from PennDOT's Bureau of Motor Vehicle Registration Database. Vehicle Type Mix is calculated by PPAQ from algorithms using a combination of MOBILE default percentages and PennDOT truck percentages from roadway data. (See also the discussion of Vehicle Type Pattern Data in the next section.) Speeds are discussed extensively in the next section.

Fuel Parameters. The same vehicle will produce different emissions using a different type of gasoline. Fuel control strategies can be powerful emission reduction mechanisms. An important variable in fuels for VOC emissions is its evaporability, measured by Reid Vapor Pressure.

MOBILE allows the user to choose among conventional (used in most of Pennsylvania), federal reformulated (now used in the Philadelphia area), oxygenated (not used in Pennsylvania) and low Reid Vapor Pressure (RVP) gasolines (used in the Pittsburgh area starting in 1998). Pennsylvania chooses the MOBILE inputs appropriate to the year and control strategy for the area being modeled.

MOBILE also allows users to calculate refueling emissions -- the emissions created when vehicles are refueled at service stations. Pennsylvania includes refueling emissions in its area source inventory and not in its highway vehicle inventory. However, that calculation uses a grams per gallon emission rate generated by MOBILE.

Vehicle Emission Inspection/Maintenance (I/M) Parameters. MOBILE allows users to vary inputs depending on the I/M program in place for the area or, of course, choose "no I/M program." The inputs include:

- program start year
- stringency level (failure rate) and pass/fail standards or "cutpoints"
- first and last model years subject to the program
- waiver rates
- compliance rates
- program type (test-only, test-and-repair, etc.)
- frequency of inspection (annual, biennial)
- vehicle type coverage
- test type (idle, loaded, etc.)
- technician training program

Some cutpoints (the emissions at which vehicles are failed) are contained in MOBILE, while others must be put in by the model user. Pennsylvania uses the parameters specific for the geographic area and year for which the modeling is being performed.

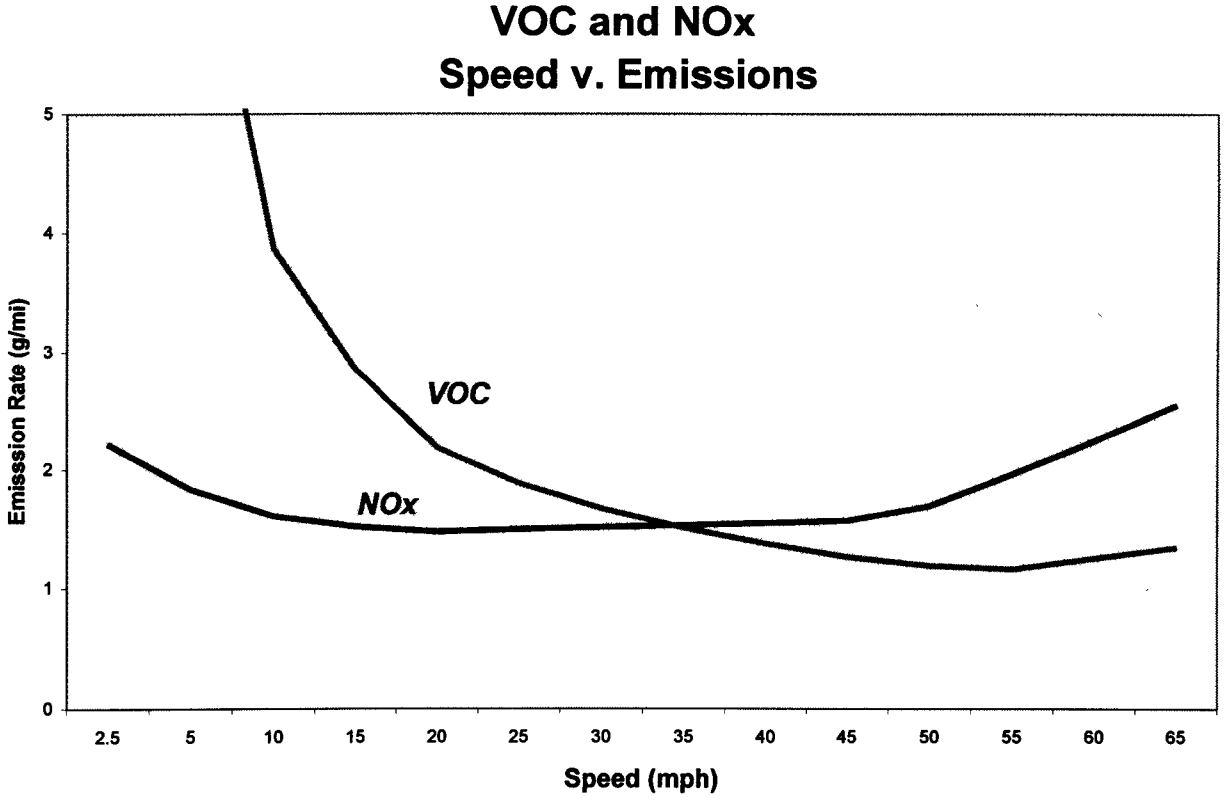
Environmental Variables. Evaporative emissions are influenced significantly by the temperatures of the surrounding air. Minimum, Maximum, and Ambient temperatures have been compiled for each county based on information from EPA's CHIEF bulletin board reflecting airport temperatures on emission violation days.

Emission and Speed Relationships

Of all the user-supplied input parameters, perhaps the most important is vehicle speed. Emissions of both VOC and NOx vary significantly with speed, but the relationships are not linear, as shown in Exhibit 3. While VOCs generally decrease as speed increases, NOx decreases only at the low speed range and increases steeply at higher speeds.

To obtain the best estimate of vehicle speeds, Pennsylvania uses the PPAQ set of programs, whose primary function is to calculate speeds and to organize and simplify the handling of large amounts of data needed for calculating speeds and for preparing MOBILE input files.

Exhibit 3



PPAQ can also provide a link between transportation and air quality models, enabling models like MOBILE to take advantage of the wealth of information generated by transportation models in a form which is relevant for air quality. Transportation models are presently used in the Philadelphia and Pittsburgh areas and are being incorporated into the transportation planning process in other metropolitan areas in the Commonwealth.

Roadway Data

The roadway data input to emissions calculations for Pennsylvania uses information from the Roadway Management System (RMS) maintained by PennDOT's Bureau of Planning and Research. PennDOT obtains this information from periodic visual and electronic traffic counts. RMS data is dynamic since it is continually reviewed and updated from new traffic counts and field visits conducted by PennDOT. Information on roadways included in the National Highway System is reviewed at least annually, while information on other roadways is reviewed at least biennially.

Periodically, a current "snapshot" of the RMS database is taken and downloaded to provide an up-to-date record of the Commonwealth's highway system for estimating emissions.

The RMS database contains all state highways, including the Pennsylvania Turnpike, divided into segments approximately 0.5 miles in length. These segments are usually divided at important intersections or locations where there is a change in the physical characteristics of the roadway (e.g. the number of lane changes). There are approximately 99,000 state highway segments for the 67 Pennsylvania counties contained in the RMS. Each of these segments contains an abundance of descriptive data, but only the following information is extracted for emission calculations:

- Lanes
- Distances
- Volumes in Average Annual Daily Traffic (AADT)
- Truck percentages
- PennDOT urban/rural classifications
- PennDOT functional class codes

RMS volumes and distances are used in calculating highway VMT totals for each county. As discussed in the next section, adjustments are needed to convert the volumes to an average July weekday. Lane values are an important input for determining the congestion and speeds for individual highway segments. Truck percentages are used in the speed determination process and are used to split volumes to individual vehicle types used by the MOBILE software.

Pennsylvania classifies its road segments by function, as well as whether it is located in an urban, small urban or rural area, as indicated below in Exhibit 4. The PennDOT urban/rural (UR) and functional classes (FC) are important indicators of the type and function of each roadway segment. The variables provide insights into other characteristics not contained in the RMS data that are used for speed and emission calculations. In addition, VMT and emission quantities are aggregated and reported using both UR and FC codes.

Exhibit 4

PennDOT Classification Scheme: Urban/Rural Codes and Functional Class Codes

Urban/Rural Code	1=Rural 2=Small Urban 3=Urban	
Functional Class	Rural Functional Classes Used For Rural Areas	Urban Functional Classes Used For Small Urban and Urban Areas
	1=Rural Freeway	11=Urban Freeway
	2=Rural Other Principal Arterial	12=Urban Expressway
	6=Rural Minor Arterial	14=Urban Principal Arterial
	7=Rural Major Collector	16=Urban Minor Arterial
	8=Rural Minor Collector	17=Urban Collector
	9=Rural Local	19=Urban Local

Note: Functional Classes 3,4,5,10,13,15,18 are not currently used in PennDOT's RMS database

Additions and Adjustments to Roadway Data

Before the RMS data can be used by PPAQ for speed and emission calculations, several adjustments and additions must be made to the roadway data.

1990 HPMS Adjustments: According to EPA guidance, baseline inventory VMT computed from the RMS highway segment volumes must be adjusted to be consistent with Highway Performance Monitoring System (HPMS) VMT totals. The HPMS VMT reported for Pennsylvania is a subsystem of the RMS established to meet the data reporting requirements of the Federal Highway Administration (FHWA) and to serve as PennDOT's official source of highway information. Although it has some limitations, the HPMS system is currently in use in all 50 states and is being improved under FHWA direction.

The HPMS VMT totals are developed from the data contained in the RMS database at the time of reporting and serves as a "snapshot" of the RMS data for a particular year. Since the RMS database does not contain many local roads, a separate procedure is used by PennDOT to estimate total local VMT for the HPMS system. HPMS VMT summaries are prepared each year and reported by PennDOT urban/rural and functional class codes. The VMT contained in the HPMS reports are considered to represent average annual daily traffic (AADT).

Although the HPMS VMT and the roadway data used for an inventory emissions analysis are both based on data from the RMS system, differences do exist between them and include the following. First, the HPMS and inventory roadway data are "snapshots" of the RMS data taken at different times. Since the RMS is dynamic, changing constantly due to new data, differences will result between the data used for calculating HPMS VMT totals and the inventory data used for an emissions analysis. Second, local estimates of HPMS VMT are obtained through alternative procedures developed by PennDOT. However, the emissions inventory makes use of those few local roads contained in the RMS system. To account for such differences, adjustment factors are calculated and used to adjust the inventory roadway data to the reported HPMS VMT totals submitted to FHWA.

Adjustment factors are calculated which adjust the 1990 RMS VMT to be consistent with 1990 HPMS totals. These factors are developed for each county, urban/rural code, and functional class combination and are also applied to all future year runs. Adjustments for the "higher" functional classes (e.g. Freeway, Arterials - major routes) were very close to 1.000 since HPMS VMT is derived from RMS information, and the only difference in the data is that the "snapshot" for the emission calculations is taken at a different time than for the HPMS. "Lower" classes (e.g. local roads) require greater adjustment since a large part of the local system is not under state jurisdiction and is not in the RMS database. There is, of course, a significant amount of local road mileage in the state. It is assumed that those local streets that are in RMS are representative of all local streets in their area with respect to volume and speed, so that roadway mileage adjustment is appropriate.

The adjustment factors calculated above are applied by PPAQ during each run. The factors developed for the 1990 volumes are also used for any future year runs.

Seasonal Adjustments to Volumes: The RMS contains AADT volumes that are an average of all days in the year including weekends and holidays. An ozone emission analysis, however, is based on a typical July weekday. Therefore, those volumes must be seasonally adjusted. Seasonal factors were developed for each functional class and urban/rural code based on yearly count information prepared by PennDOT's Bureau of Planning and Research. These factors are applied to the existing RMS AADT volumes to produce the July volumes.

Additional Network Information: The PPAQ software system allows for many additional variables other than those available in the RMS database. Using these variables improves the ability of Pennsylvania to incorporate real roadway conditions into its estimates. The variables include information regarding signal characteristics and other physical roadway features that can affect a roadway's calculated congested speed. PPAQ's ability to estimate congested speeds by road segment improves Pennsylvania's emissions inventories because of the overwhelming role speed plays in emission rates. If specific information regarding these variables is known or obtained for areas, this information can be appended to the RMS database. Otherwise, default values are assumed based on information provided by the PPAQ input speed/capacity lookup data as described below.

Speed/capacity lookup data provides PPAQ with initial (free-flow with no congestion) speeds and capacities for different urban/rural code and functional class groupings. The initial speeds and capacities are used by PPAQ in determining the final congested speed for each roadway segment. Speeds can also be greatly impacted by signals and other roadway features. As a result, this data provides default signal densities (average number of signals per mile for different functional classes) as well as default values for variables that determine the decay of speed with varying levels of congestion. As discussed above, values from the speed/capacity data can be overridden for specific links by directly coding values to the roadway database segments. The speed capacity data was developed from a combination of sources including the following:

- Information contained in the 1994 Highway Capacity Manual
- PennDOT information on speeds and signal densities
- Engineering judgment

24-hour Pattern Data: Speeds and emissions vary considerably depending on the time of day (because of temperature) and congestion. Therefore, it is important to estimate the pattern by which roadway volume varies by hour of the day. The 24-hour pattern data provides PPAQ with

information used to split the daily roadway segment volumes to each of the 24 hours in a day. Pattern data is in the form of a percentage of the daily volumes for each hour. Distributions are provided for each county and functional class grouping. This data was developed from 24-hour count data compiled by PennDOT's Bureau of Planning and Research, according to the process in Procedures for Adjusting Traffic Count Data, 1991.

Vehicle Type Pattern Data: Basic emission rates may differ by vehicle type. These types are listed below in Exhibit 5.

Exhibit 5

MOBILE Vehicle Types

1.	LDGV	- Light-Duty Gasoline Vehicles
2.	LDGT1	- Light-Duty Gasoline Trucks (<6,500 lbs)
3.	LDGT2	- Light-Duty Gasoline Trucks (<8,500 lbs)
4.	HDGV	- Heavy-Duty Gasoline Vehicles (>8,500 lbs)
5.	LDDV	- Light-Duty Diesel Trucks (<8,500 lbs)
6.	LDDT	- Light-Duty Diesel Trucks (<8,500 lbs)
7.	HDDV	- Heavy-Duty Diesel Vehicles (>8,500 lbs)
8.	MC	- Motorcycles

MOBILE summary reports by vehicle type are also useful in knowing what kinds of vehicles generate emissions. The vehicle type pattern data is used by PPAQ to divide the hourly roadway segment volumes to the eight MOBILE vehicle types. Similar to the 24-hour pattern data, this data contains percentage splits to each vehicle type for every hour of the day. The vehicle type pattern data was developed from several sources of information:

- Hourly distributions for trucks and total traffic compiled by PennDOT's Bureau of Planning and Research, according to Procedures for Adjusting Traffic Counts, 1991
- PennDOT truck percentages from the RMS database
- MOBILE default vehicle type breakdowns

The vehicle type pattern data is developed for each county and functional class combination. First, RMS truck percentages are averaged for all roadways within a county, functional class grouping. Using this percentage data, the total roadway volume for any segment could be divided to both auto and truck vehicle type categories. However, these percentages do not yet enable volumes to be divided to each of the eight MOBILE vehicle types. As a result, MOBILE default vehicle type breakdowns are then used to divide the auto and truck percentages, calculated above, to each specific MOBILE vehicle type. PennDOT hourly distributions for trucks and total traffic are then used to create vehicle type percentage breakdowns for each hour of the day.

Vehicle Type Capacity Analysis Factors: Vehicle type percentages are provided to the capacity analysis section of PPAQ to adjust the speeds in response to trucks. That is, a given number of larger trucks take up more roadway space than a given number of cars, and this must be accounted for in the model. Capacity is adjusted based on the factors provided in this data. Values are developed from information in the 1994 Highway Capacity Manual and are specific to the various facility types.

Producing Future Year Volumes

Growth factors are used to project future highway volumes from the volumes provided in the RMS database. Separate factors are derived for each county and highway functional class from an analysis of historic HPMS growth trends, coupled with estimates of population and employment growth from the U.S. Department of Commerce's Bureau of Economic Analysis (BEA). The factors are then applied to base year traffic volumes on each highway segment in the RMS network database.

The Pittsburgh and Philadelphia regions, however, use a different approach for determining future year volumes, since the larger metropolitan areas are required to use more sophisticated projection methods for transportation planning. These areas currently have traffic forecasting models in place as required by US Department of Transportation; VMT estimates for base and future years are obtained from the model runs. From these VMT estimates, growth factors are prepared which are then applied to the RMS database volumes similar to other regions in Pennsylvania.

SPEED/EMISSION ESTIMATION PROCEDURE

The previous sections have summarized the input data used for computing speeds and emission rates for Pennsylvania. This section explains how PPAQ and MOBILE use that input data to produce emission estimates. Exhibit 6 on the following page summarizes PPAQ's analysis procedure used for each of the 99,000 highway segments in the state.

Producing an emissions inventory with PPAQ requires a process of disaggregation and aggregation. Data is available and used on a very small scale -- individual ½ mile roadway segments 24 hours of the day. This data needs to first be aggregated into categories so that a reasonable number of MOBILE scenarios can be run, and then further aggregated and/or re-sorted into summary information that is useful for emission inventory reporting.

Volume/VMT Development

Before speeds can be calculated and MOBILE run, volumes acquired from RMS must be adjusted and disaggregated. Such adjustments include factoring to future years, seasonal adjustments, and disaggregating daily volumes to each hour of the day and to each of the eight MOBILE vehicle types.

Future Year Volumes: The RMS database contains up-to-date current year volumes. However, to conduct a future year analysis, these volumes must be factored to the year being analyzed. Growth factors have been prepared based on historic HPMS trends coupled with population and employment forecasts for each county, urban/rural area code, and functional class grouping. These growth factors are applied to the base year RMS volumes to obtain future year estimates that can be utilized by PPAQ.

Example:

A typical freeway link in the RMS database is I-80 segment 2500 in Luzerne County, Pennsylvania. This link has an urban/rural code=1 which indicates the link is in a rural area, and a functional class=1 indicating a rural freeway. The average annual daily traffic (AADT) from the RMS database for this link in 1990 is 12,077 vehicles/day.

Growth factors have been developed to factor the 1990 volume to future years. For example, to factor the 1990 volume to the year 2002, a factor of 1.282 has been developed for Luzerne County rural freeways.

2002 volume = 12,077 vehicles/day x 1.282 = 15,483 vehicles/day

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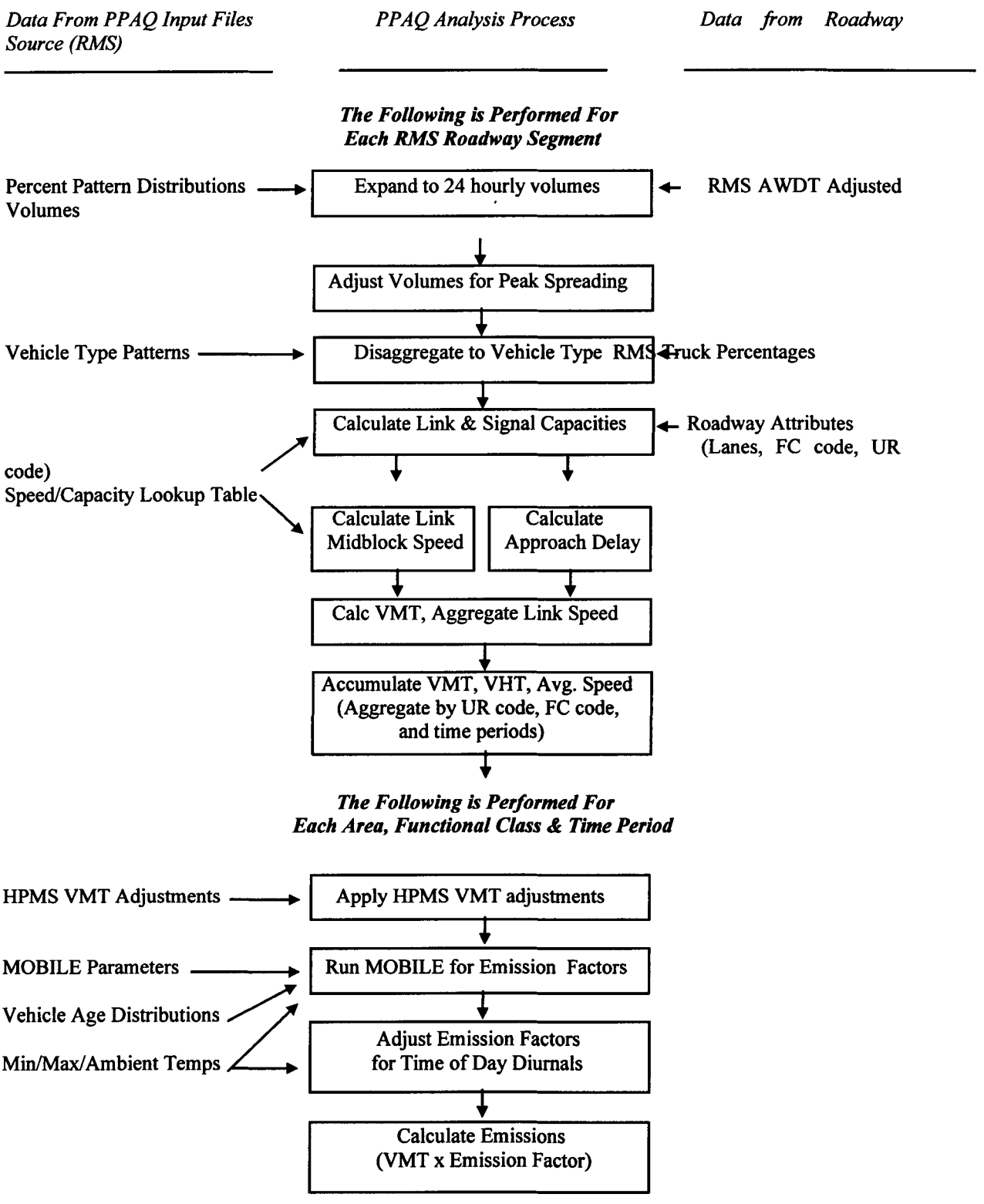
Exhibit 6

PPAQ Speed/Emission Estimation Procedure



Seasonal Adjustments: PPAQ takes the input daily volumes from RMS which represent AADT and seasonally adjusts the volumes to an average weekday in July. This adjustment utilizes factors developed for each functional class and urban/rural code. VMT can then be calculated for each link using the adjusted weekday volumes.

Example:

Again, assume the rural freeway link: I-80 segment 2500 in Luzerne County, Pennsylvania. The average annual daily traffic (AADT) for this link in 1990 is 12,077 vehicles/day.

Seasonal factors have been developed for urban/rural code and functional class combinations. For an urban/rural code=1 and a functional class=1, the factor to convert from AADT to an average weekday in July is = 1.15

Average Weekday July Volume = 12,077 x 1.15 = 13,889 vehicles/day

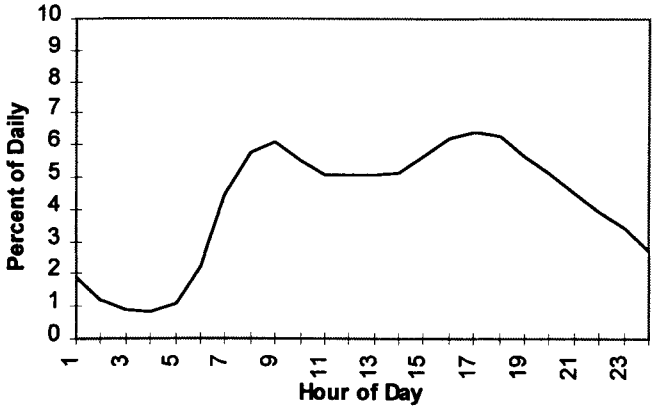
Total VMT (daily) for this link is calculated as volume x distance. The distance of this link as obtained from RMS is 0.286 miles.

1990 VMT = 13,889 vehicles/day x 0.296 miles = 41,111 vehicle-miles / day

Disaggregation to 24 Hours: After seasonally adjusting the link volume, the volume is split to each hour of the day. This allows for more accurate speed calculations (effects of congested hours) and allows PPAQ to aggregate VMT and speeds to different time periods for purposes of running MOBILE scenarios and reporting emissions.

Example:

To support speed calculations and emission estimates by time of day, the July weekday volume is disaggregated to 24 hourly volumes. Temporal patterns were previously developed from PennDOT count data and input to PPAQ. For the I-80 rural freeway link with morning peak volumes similar to evening peak hours (neutral), the following temporal pattern is applied:



Using the I-80 segment for 1990, typical hourly volumes which result include:

8-9 a.m. 6.0% x (41,111 vehicle miles/ 0.296mi.) = 833 vehicles/hour (vph)

12-1 p.m. 5.0% x (41,111 vehicle .miles/ 0.296mi.) = 694 vph

5-6 p.m. 6.3% x (41,111 vehicle miles/ 0.296mi.) = 875 vph

After dividing the daily volumes to each hour of the day, PPAQ identifies hours that are overly congested. For those hours, PPAQ then spreads a portion of the volume to other hours within the same peak period, thereby approximating the "peak spreading" that normally occurs in such over-capacity conditions.

Disaggregation to Vehicle Type: EPA requires VMT estimates to be prepared by vehicle type, reflecting specific local characteristics. As a result, for Pennsylvania's emission inventory, the hourly volumes are disaggregated to the eight MOBILE vehicle types based on count data assembled by PennDOT.

Example:

Disaggregation of the total I-80 volume (by hour) to the various vehicle types would include the following:

Total Volume 8-9 am = 833 vph

Vehicle Type Volume 8-9 am:

LDGV	54.1%	451 vph
LDGT1	19.7%	164 vph
LDGT2	13.8%	115 vph
HDGT	2.7%	22 vph
LDDV	2.3%	19 vph
LDDT	1.8%	15 vph
HDDV	4.8%	40 vph
MC	0.8%	7 vph

Speed/Delay Determination

EPA recognizes that the estimation of vehicle speeds is a difficult and complex process. Because emissions are so sensitive to speeds, it recommends special attention be given to developing reasonable and consistent speed estimates; it also recommends that VMT be disaggregated into subsets that have roughly equal speed, with separate emission factors for each subset. At a minimum, speeds should be estimated separately by roadway functional class. The computational framework used for this analysis meets and exceeds that recommendation: Speeds are individually calculated for each roadway segment and hour and incorporate the delays encountered at signals. VMT and vehicle hours of travel (VHT) are then accumulated for each cell of the county/functional class/time of day matrix; accumulated VMT is divided by VHT to produce the cell's average speed.

To calculate speeds, PPAQ first obtains initial capacities (how much volume the roadway can serve before heavy congestion) and free-flow speeds (speeds assuming no congestion) from the speed/capacity lookup data. As described in previous sections, this data contains default roadway information indexed by the urban/rural code and functional class. For areas with known characteristics, values can be directly coded to the RMS database and the speed/capacity data can be overridden. However, for most areas where known information is not available, the speed/capacity lookups provide valuable default information regarding speeds, capacities, signal

densities and characteristics, and other capacity adjustment information used for calculating congested delays and speeds.

Example:

The speed/capacity lookup table is used to obtain important data used for link speed calculations. For the I-80 link with an urban/rural code = 1 (rural) and a functional class = 1 (freeway), the lookup table provides information including the following:

freeflow speed = 65 mph
capacity = 1800 vph per lane
number of signals = 0

This information is used along with the physical characteristics of the roadway to calculate the delay (including congestion) to travel this link during each hour of the day:

For example: The I-80 link is calculated to have a travel time, including delay of 17.76 seconds for the 8-9am hour

Total travel time, in vehicle hours, for the 8-9am hour is calculated as:

VHT (8-9am) = 17.76 seconds x 833vph / 3600 sec/hr = 4.12 vehicle hours

The result of this process is an estimated average travel time for each hour of the day for each highway segment. The average time can be multiplied by the volume to produce vehicle hours of travel (VHT).

HPMS and VMT Adjustments

Volumes must also be adjusted to account for differences with the HPMS VMT totals, as described previously. VMT adjustment factors are provided as input to PPAQ, and are applied to each of the roadway segment volumes. These factors were developed from 1990 data; however, they are also applied to any future year runs. The VMT added or subtracted to the RMS database assumes the speeds calculated using the original volumes for each roadway segment for each hour of the day.

Example:

Using the Luzerne County I-80 rural freeway link example, the daily assigned volume is adjusted to account for reconciliation with the HPMS VMT. RMS VMT (in AADT) for Luzerne County rural freeways totals 962,559 vehicle miles in 1990. HPMS VMT (in AADT) as supplied by PennDOT and reported to FHWA totals to 990,088 vehicle miles for the rural freeways. A factor is developed by dividing the HPMS VMT by the RMS VMT:

HPMS adjustment factor for Luzerne County rural freeways = 990,088 / 962,559 = 1.029

This factor is held constant in all future years. As an example, this adjustment is made to the
I-80 freeway link VMT for the 8-9am hour after speed calculations are made, and produces the final July weekday VMT for this hour used for Ozone runs.

I-80 Link VMT (8-9am) = 833vph x 0.296 miles x 1.029 = 254 vehicle miles

VMT and Speed Aggregation

While highway volumes, vehicle mixes, and speeds are calculated on the basis of individual highway segments and hours, this data is far too disaggregate to apply directly to MOBILE. Therefore, PPAQ has been set up to automatically accumulate VMT and VHT by larger geographic areas, highway functional class, and time periods as shown in Exhibit 7.

Exhibit 7

VMT/VHT Aggregation Scheme

County entries			67
Urban/Rural Code	1=Rural 2=Small Urban 3=Urban		
Functional Class entries	1=Rural Freeway	11=Urban Freeway	18
	2=Rural Other Principal Arterial	12=Urban Expressway	
	6=Rural Minor Arterial	14=Urban Principal Arterial	
	7=Rural Major Collector	16=Urban Minor Arterial	
	8=Rural Minor Collector	17=Urban Collector	
	9=Rural Local	19=Urban Local	
Time Periods	AM Peak Period (7:00 to 10:00 AM)		4 entries
	Midday (10:00 AM to 4:00 PM)		
	PM Peak Period (4:00 to 6:00 PM)		
	Night (6:00 PM to 7:00 AM)		
			4,824
potential combinations			

Geographic aggregation is performed by urban, small urban, and rural areas of each county. Functional class aggregation is according to PennDOT's eighteen standard functional classes, respecting urban, small urban and rural definitions. Time period aggregation is according to AM peak, PM peak, Midday, and Night as defined in Exhibit 6. For an individual county, this creates a potential for 72 possible combinations, each of which becomes an input MOBILE scenario. This allows each MOBILE scenario to represent the actual VMT mix, speed, and potentially cold/hot start fraction for that geographic / highway / time combination. Altogether then, there are potentially 4,824 combinations for which speeds and VMT are computed and emissions are calculated with MOBILE.

Once all links are processed and VMT and VHT accumulated, average speeds are calculated for each cell of the accumulation matrix by dividing VMT by VHT. This speed is then input to the MOBILE scenario as the average speed for that cell.

Example:

The hourly VMT and VHT quantities are accumulated into a matrix of VMT and VHT for each combination of county, urban/rural code, functional class, and time period.

For this example, Luzerne County rural freeways during the morning peak period (7-10am) will carry 155,904 vehicle miles of travel, and will involve 2,399 vehicle hours of travel. Dividing the accumulative VMT by the cumulative VHT produces the average operating speed for this cell:

Average speed = VMT / VHT = 155,904 / 2,399 = 64.9 mph

Thus the Luzerne County rural freeways will operate at an average speed of 65.0 mph during the morning peak period. Overall, on a 24-hour basis the total VMT for Luzerne rural freeways will be 1,148,251 vehicle miles, and the average travel speed will be 65.0 miles per hour.

MOBILE Emissions Run

After computing speeds and aggregating VMT and VHT, PPAQ prepares input files to be run in EPA's MOBILE program which is used to produce VOC and NOx emission factors in grams of pollutant per vehicle mile. The process uses an unmodified version of the MOBILE program that was obtained directly from EPA.

The MOBILE input file prepared by PPAQ contains the following:

- MOBILE template containing appropriate parameters and program flags
- Temperature data specific to the county being run
- Vehicle age data for the county being run
- Scenario data - contains VMT mix, average speeds specific to scenario as produced by PPAQ

Example:

A MOBILE input file is created by PPAQ for Luzerne County. This file contains separate scenarios for each urban/rural code, functional class, and time period combination. A scenario represents a separate MOBILE run with different emission factors calculated and output for each run.

For this example, Luzerne County rural freeways during the morning peak period (7-10am) will be run as a scenario. Specific data including temperature data, vehicle mix data, and speeds are supplied by PPAQ for this morning period scenario.

Time of Day and Diurnal Emissions

The highway system VMT and speeds are aggregated according to four time periods. Because diurnal emissions are calculated by MOBILE on the basis of 24-hour minimum-to-maximum

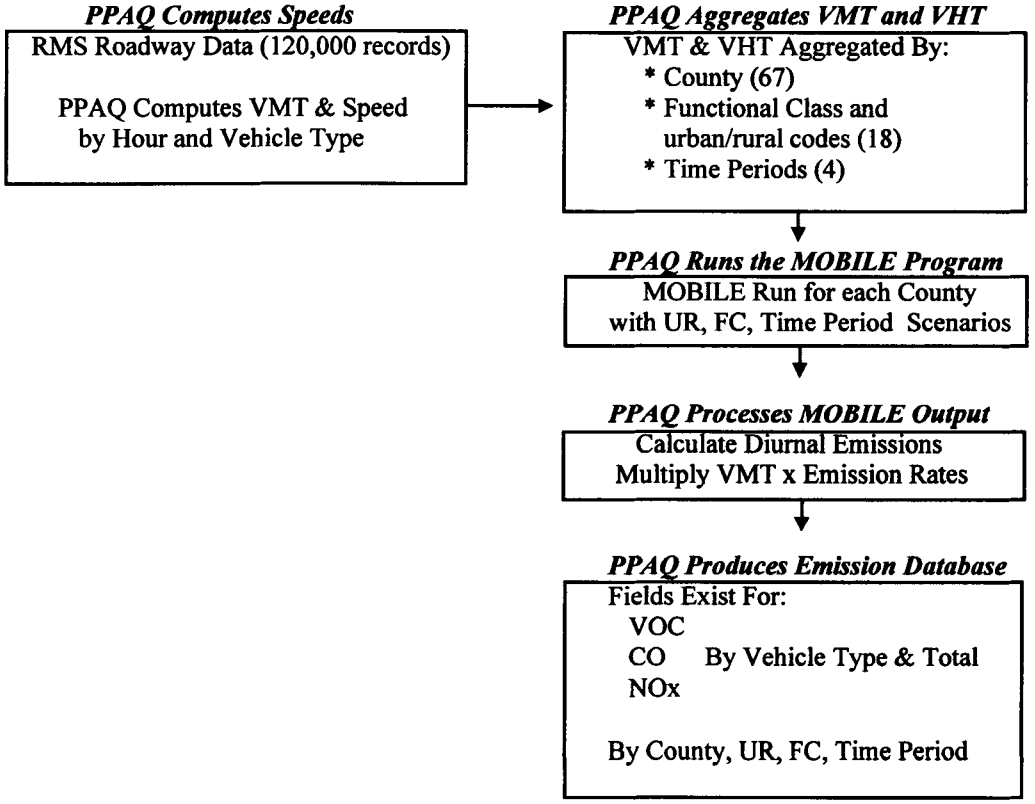
temperatures, special processing is needed to accurately estimate the emissions component by allocating daily diurnal emissions to the various time periods. This is done within the computational process by adjusting the emission factors for each time period to correctly account for that time period's share of the daily diurnal emissions.

Process MOBILE Output

After MOBILE has been run, PPAQ processes the MOBILE output files and compiles the emission factors for each scenario. Using the above methodology, it allocates daily diurnal emissions to each of the time periods. Using the MOBILE emission factors, PPAQ calculates emission quantities by multiplying the emission factors by the aggregated VMT totals. PPAQ then produces an emissions database summarizing VMT, VHT, VOC, and NOx emissions as shown in Exhibit 8.

Exhibit 8

Summary of PPAQ's Methodology in Producing Emissions Summary



Example:

Luzerne County rural freeways during the morning peak period (7-10am) were run as a scenario in MOBILE. Based on the input information, MOBILE outputs emission factors by vehicle type for this scenario as shown below:

Composite Emission Factors (grams/mile) from MOBILE output

Vehicle Type:	LDGV	LDGT1	LDGT2	HDGT	LDDV	LDDT	HDDV	MC
VOC:	1.22	1.86	2.42	3.68	0.36	0.54	1.13	4.53
NOX:	2.41	3.16	3.66	7.14	1.84	4.15	5.84	8.71

PPAQ reads these emission factors from the MOBILE output file and multiplies them by the Luzerne County morning peak period rural freeway VMT to obtain emission totals for this scenario. (Note: emissions shown in kg/day which is converted to tons/day in SIP narratives)

PPAQ computes emissions as follows for this scenario:

			Emission Factors (g/mi)			Emissions (kg/day)	
Veh Type	**VMT**		**VOC**	**NOX**		**VOC**	**NOX**
LDGV	84,344	x	1.22	2.41	=	102.9	203.3
LDGT1	30,713	x	1.86	3.16	=	57.1	97.1
LDGT2	21,515	x	2.42	3.66	=	52.1	78.7
HDGT	4,209	x	3.68	7.14	=	15.5	30.1
LDDV	3,586	x	0.36	1.84	=	1.3	6.6
LDDT	2,806	x	0.54	4.15	=	1.5	11.6
HDDV	7,483	x	1.13	5.84	=	8.5	43.7
MC	1,248	x	4.53	8.71	=	5.7	10.9
Total	155,903					244.6	482.0

The emissions for this scenario are reported and stored in an output database file which contains a record for each scenario with fields containing VMT, VHT, VOC emissions, and NOX emissions. Fields exist for each vehicle type and for the total of all vehicle types as shown below.

Reported by Vehicle Type 1-8 and Total --- Repeated for VHT,HC,NOX

Cnty	**UR**	**FC**	**Time**	**VMT1**	**VMT2**	**VMT3**	**VMT4**	**VMT5**	**VMT6**	**VMT7**	**VMT8**	**VMTtot**
Luze	1	1	AM	84,344	30,713	21,515	4,209	3,586	2,806	7,483	1,248	155,903

	VHT1	**VHT2**	**VHT3**	**VHT4**	**VHT5**	**VHT6**	**VHT7**	**VHT8**	**VHTtot**
	1,298	473	331	65	55	43	115	19	2,399

	VOC1	**VOC2**	**VOC3**	**VOC4**	**VOC5**	**VOC6**	**VOC7**	**VOC8**	**VOCtot**
	102.9	57.1	52.1	15.5	1.3	1.5	8.5	5.7	244.6

NOXtot	NOX1	NOX2	NOX3	NOX4	NOX5	NOX6	NOX7	NOX8
482.0	203.3	97.1	78.7	30.1	6.6	11.6	43.7	10.9

RESOURCES

MOBILE model

Modeling Page within EPA's Office of Mobile Sources Website (http://www.epa.gov/omswww/models.htm) contains a downloadable model, MOBILE users guide and other information. It also contains documents relating to the next version of MOBILE (MOBILE6) expected in 1999.

"AP-42" document, "Compilation of Air Pollutant Emission Factors, Volume II: Mobile Sources," as updated by Supplement A (January 1991), available in hard-copy only. This material is also in the process of being revised and updated. Contact AP-42 Project, Test and Evaluation Branch, EPA, 2565 Plymouth Road, Ann Arbor, MI 48105.

Highway Vehicle Emission Estimates (June 1992) and *Highway Vehicle Emission Estimates II* (May 1995) discusses how EPA obtains data for MOBILE and some of the shortcomings in earlier models. Similar discussions of the present version's shortcomings are discussed in papers available at the website.

"MOBILE5, Information Sheet #5, Inclusion of New 2004 NOx Standard for Heavy-Duty Diesel Engines in MOBILE5a and MOBILE5b Modeling," US EPA, January 30, 1998.

"MOBILE5, Information Sheet #6, Effects of the New National Low Emission Vehicle Standard for Light-Duty Gasoline Fueled Vehicles," US EPA, July 1998.

"MOBILE5, Information Sheet #7, NOx Benefits of Reformulated Gasoline Using MOBILE5a," US EPA, September 1998.

Traffic Engineering

1994 Highway Capacity Manual, Transportation Research Board, presents current knowledge and techniques for analyzing the transportation system.

Procedures for Adjusting Traffic Count Data, 1991 edition, Pennsylvania Department of Transportation, Bureau of Planning and Research

Traffic Data Collection and Factor Development Report, 1996 Data, Pennsylvania Department of Transportation, Bureau of Planning and Research.

Highway Vehicle Inventory Glossary

AADT: Average Annual Daily Traffic, average of ALL days.

AWDT: Average Weekday Daily Traffic

Basic emission rates: MOBILE emission rates based on the applicable Federal emission standards and the emission control technologies characterizing the fleet in various model years.

Cold start: parameter in MOBILE that accounts for additional emissions resulting from a cold-started engine.

Diurnals: the pressure-driven evaporative HC emissions resulting from the daily increase in temperature

Emission rate or factor: expresses the amount of pollution emitted per unit of activity. For highway vehicles, usually in grams of pollutant emitted per mile driven.

FC: Functional code, applied in data management to road segments to identify their type (freeway, local, etc.)

Fuel volatility: The ability of fuel components to evaporate, thus entering the atmosphere as pollution. Fuel volatility is usually measured as Reid Vapor Pressure (RVP) in pounds per square inch. The lower the RVP, the less volatile the fuel.

Growth factor: Factor used to convert volumes to future years

HPMS: Highway Performance Monitoring System, PennDOT's official source of highway information and a subset of RMS.

I/M: Vehicle emissions inspection/maintenance programs ensure that vehicle emission controls are in good working order throughout the life of the vehicle. The programs require vehicles to be tested for emissions. Most vehicles that do not pass must be repaired.

MOBILE: The model EPA has developed and which Pennsylvania uses to estimate emissions from highway vehicles.

Pattern data: Extrapolations of traffic patterns (such as how traffic volume on road segment types varies by time of day, or what kinds of vehicles tend to use a road segment type) from segments with observed data to similar segments.

Program flag: In MOBILE, a numeric code which tells the program such things as how data will be provided by user (or whether default will be used) or how to tailor outputs.

PPAQ: Post-Processor for Air Quality, a set of programs that estimate speeds and processes MOBILE emission rates.

RMS: Roadway Management System, a database maintained by PennDOT from traffic counts and field visits

Scenario: a MOBILE run with a specific set of geographical, time period, highway facility and control strategy assumptions.

Segment: (referred to as link) division of roadway in the PennDOT Roadway Management System. Usually represents 0.5 mile segments of roadway.

UR: Urban/rural code, applied in data management to identify whether a road segment is urban, small urban or rural.

VHT: vehicle hours traveled.

VMT: vehicle miles traveled. In modeling terms, it is the simulated traffic volumes times link length.

Vehicle Type: One of eight types, distinguished primarily by fuel type and/or weight, used in MOBILE modeling.

APPENDIX C

SUMMARY TABLES AND DOCUMENTATION FOR PHILADELPHIA HIGHWAY VEHICLE INVENTORY

ADJUSTMENT TABLE FOR PHASE II RFG

Since Phase II RFG NOx credits are calculated "off-model", they are not included in individual vehicle type or functional class emission outputs in this appendix (Tabulations 4 and 5).
Adjusted kilogram and ton totals by county which do include this credit are provided in this table.

Control Strategy Scenario: kilograms/day

	1999		*2002*		*2005*	
County	VOC (kg/day)	NOx (kg/day)	VOC (kg/day)	NOx (kg/day)	VOC (kg/day)	NOx (kg/day)
Bucks	16,177	20,432	12,774	17,427	11,371	16,221
Chester	10,914	17,539	8,850	15,087	8,017	14,252
Delaware	10,755	12,323	8,462	10,442	7,596	9,770
Montgomery	19,123	24,872	14,923	20,974	13,164	19,378
Philadelphia	23,465	24,265	18,059	20,557	15,879	18,779
Area Total	80,435	99,431	63,068	84,487	56,027	78,400

Control Strategy Scenario: tons/day

	1999		*2002*		*2005*	
County	VOC (tons/day)	NOx (tons/day)	VOC (tons/day)	NOx (tons/day)	VOC (tons/day)	NOx (tons/day)
Bucks	17.83	22.52	14.08	19.21	12.53	17.88
Chester	12.03	19.33	9.76	16.63	8.84	15.71
Delaware	11.86	13.58	9.33	11.51	8.37	10.77
Montgomery	21.08	27.42	16.45	23.12	14.51	21.36
Philadelphia	25.87	26.75	19.91	22.66	17.50	20.70
Area Total	88.66	109.60	69.52	93.13	61.76	86.42

** *Includes Phase II RFG NOx credit per EPA guidance.*

LIST OF TABULATIONS

Summary VMT, VOC & NOx Inventory and Forecast by County

SUMMARY VMT, VOC, and NOx INVENTORY
FOR HIGHWAY VEHICLES BY COUNTY

Scenario				*Uncontrolled Baseline*		*Adjusted Baseline*		*Control Strategy*	
County	**1990 VMT**	**VMT**	**Total Growth**	**VOC (tons/day)**	**NOx (tons/day)**	**VOC (tons/day)**	**NOx (tons/day)**	**VOC (tons/day)**	**NOx (tons/day)**
	Ave. Speed	*Ave. Speed*	*(from 1990)*					***% Reduction** (from 1999 Adj. Base)*	
1999									
Bucks	12,850,048	14,829,484	1.15	35.42	31.98	28.25	28.01	17.83	22.52
	26.4	23.5						-36.9%	-19.6%
Chester	10,147,864	12,712,974	1.25	23.00	27.18	17.73	22.24	12.03	19.33
	33.8	31.6						-32.1%	-13.1%
Delaware	8,279,044	10,201,547	1.23	23.67	19.49	18.84	16.40	11.86	13.58
	23.7	22.7						-37.1%	-17.2%
Montgomery	16,839,969	19,653,334	1.17	41.19	38.92	34.41	34.55	21.08	27.42
	26.8	25.5						-38.7%	-20.6%
Philadelphia	16,485,464	17,352,364	1.05	53.57	38.83	49.23	37.59	25.87	26.75
	20.7	19.9						-47.5%	-28.8%
Area Total	64,602,389	74,749,703	1.16	176.85	156.40	148.45	138.80	88.66	109.60
	25.2	23.9						-40.3%	-21.0%

SUMMARY VMT, VOC, and NOx INVENTORY
FOR HIGHWAY VEHICLES BY COUNTY

Scenario				*Uncontrolled Baseline*		*Adjusted Baseline*		*Control Strategy*	
County	**1990 VMT**	**VMT**	**Total Growth**	**VOC (tons/day)**	**NOx (tons/day)**	**VOC (tons/day)**	**NOx (tons/day)**	**VOC (tons/day)**	**NOx (tons/day)**
	Ave. Speed	*Ave. Speed*	*(from 1990)*					***% Reduction** (from 2002 Adj. Base)*	
2002									
Bucks	12,850,048	15,360,723	1.20	36.61	32.34	27.43	27.39	14.08	19.21
	26.4	22.7						-48.7%	-29.8%
Chester	10,147,864	13,455,192	1.33	24.01	27.88	17.18	21.71	9.76	16.63
	33.8	30.8						-43.2%	-23.4%
Delaware	8,279,044	10,565,271	1.28	24.40	19.70	18.40	16.05	9.33	11.51
	23.7	22.2						-49.3%	-28.3%
Montgomery	16,839,969	20,292,551	1.21	42.02	39.13	33.61	33.79	16.45	23.12
	26.8	25.1						-51.1%	-31.6%
Philadelphia	16,485,464	17,553,363	1.06	53.29	38.26	48.02	36.63	19.91	22.66
	20.7	19.7						-58.5%	-38.2%
Area Total	64,602,389	77,227,100	1.20	180.33	157.30	144.64	135.57	69.52	93.13
	25.2	23.5						-51.9%	-31.3%

*Include Phase II RFG NOx Credit.

7/31/99

SUMMARY VMT, VOC, and NOx INVENTORY
FOR HIGHWAY VEHICLES BY COUNTY

Scenario				*Uncontroled Baseline*		*Adjusted Baseline*		*Control Strategy*	
County	**1990 VMT**	**VMT**	**Total Growth**	**VOC (tons/day)**	**NOx (tons/day)**	**VOC (tons/day)**	**NOx (tons/day)**	**VOC (tons/day)**	**NOx (tons/day)**
	Ave. Speed	*Ave. Speed*	*(from 1990)*					***% Reduction** (from 2005 Adj. Base)*	
2005									
Bucks	12,850,048	15,892,353	1.24	38.45	33.09	27.04	27.16	12.53	17.88
	26.4	22.0						-53.6%	-34.2%
Chester	10,147,864	14,204,360	1.40	25.64	28.95	17.02	21.54	8.84	15.71
	33.8	29.9						-48.1%	-27.1%
Delaware	8,279,044	10,928,827	1.32	25.62	20.17	18.25	15.91	8.37	10.77
	23.7	21.6						-54.1%	-32.3%
Montgomery	16,839,969	20,932,278	1.24	43.54	39.84	33.28	33.53	14.51	21.36
	26.8	24.7						-56.4%	-36.3%
Philadelphia	16,485,464	17,754,508	1.08	53.69	38.17	47.49	36.14	17.50	20.70
	20.7	19.6						-63.1%	-42.7%
Area Total	64,602,389	79,712,326	1.23	186.94	160.22	143.08	134.29	61.76	86.42
	25.2	23.0						-56.8%	-35.6%

*Includes Phase II RFG NOx Credit

PA97 w/ ASM I/M Program Modeling Parameters

Philadelphia 5-County Area MOBILE Input Parameters

TABLE 1a.

	2005 Uncontrolled Baseline	2005 Adjusted Baseline	2005 Control Strategy
CONTROL FLAGS			
TAMFLG 1= Use Default, 2= Input	1	1	1
SPDFLG 1= One speed All Vehicle Types	1	1	1
VMFLAG 1= Use Default, 2= One mix for Each scenario	2	2	2
MYRMRFG 1= Use Default, 3= Input Registration Data	3	3	3
NEWFLG 1= Use Default BER's, 2= Input Alternative BER's 5= Disable CAAA BER's	5	5	2
IMFLAG 1= No I/M, 2= One I/M, 3=Two I/M / 1= No TTC credits, 2= 100% TTC credits	2 / 1	2 / 1	3 / 2
ALHFLG 1= No Emission Factor Adjustments	1	1	1
ATPFLG 1= No ATP, 2= ATP, 5= ATP and Pressure 8= ATP, Pressure, and Purge	1	1	8[1]
RLFLAG 1= Uncontrolled Refueling, 5= Not modelled in mobile sources	5	5	5
TEMFLG 1= Weighted Temps	1	1	1
NMHFLG 3= VOC's	3	3	3

[1] PA97 - gas cap pressure for 1975 & newer model years (40% credit of EPA Pressure).
PA97 w/ASM - 1975-81 receive a gas cap pressure test.
PA97 w/ASM - 1981 & newer receive the full EPA Pressure test.

Philadelphia-County Area MOBILE Input Parameters

TABLE 1b.

	2005 Uncontrolled Baseline	2005 Adjusted Baseline	2005 Control Strategy	
ONE-TIME DATA:				
Registration Distribution Records (* Varies by County, using 1993 Registration Data)	*	*	*	*
Alternate BER Record: (* Alternative BER's are entered in the Control Strategy to account for the 2004 HDDE NOx Standard.)	None	None	*	*
			I/M Record	
I/M Descriptive Records:	#1	#1	#1	#2
Program Start Year	84	84	84	84
Stringency Level	17.8	17.8	20	20
First Model Year	68	68	75	81
Last Model Year	20	20	20	20
Waiver Rate PRE- 81 Vehs (%)	2.0	2.0	3.0	3.0
Waiver Rate, Post- 81 Vehs (%)	1.1	1.1	3.0	3.0
Compliance Rate (%)	94	94	96	96
Program Type [1] 1= Test Only 2= Test & Repair (Computerized)	2	2	1	1
Inspection Frequency 1= Annual, 2= Biennial	1	1	1	1
Veh. Types Subject to Inspection (1= No, 2= Yes)				
LDGV	2	2	2	2
LDGT1	2	2	2	2
LDGT2	2	2	2	2
HDGV	1	1	1	1
Test Type 1= Idle, 2= 2 Speed Idle (2500/idle) 3= ASM, 4= IM240	1	1	1	3
Non-Default Cut Points (1= No, 2= Yes)	2	2	2	2
Alt. I/M Credit Flags(1= Use Default, 2= Input)				
File 1	1	1	1	1
File 2	1	1	1	1
Cutpoint for HC	220.00	220.00	220.00	50.00
Cutpoint for CO	1.20	1.20	1.20	15.00
Cutpoint for NOX	999.00	999.00	999.00	1.00

[1] PA97 ASM Test & Repair I/M Program is modeled as test only to claim 100% effectiveness.

Philadelphia 5-County Area MOBILE Input Parameters

TABLE 1c.

	2005 Uncontrolled Baseline	2005 Adjusted Baseline	2005 Control Strategy
ONE TIME DATA (Cont'd):			
ATP Descriptive Record:	None	None	
Program Start Year			98
First model Year			75
Last Model Year			20
Veh. Types Subject to Inspection (1= No, 2= Yes)			
LDGV			2
LDGT1			2
LDGT2			2
HDGV			1
Program Type (1= Test Only, 2= Test and Repair)[1]			1
Inspection Frequency (1=Annual, 2= Biennial)			1
Compliance Rate (%)			96
Inspections Performed (1= No, 2= Yes)			
Air Pump System			2
Catalyst			2
Fuel Inlet Restrictor			2
Tailpipe Lead Deposit Test			1
EGR System			2
Evaporative Emission Control System			2
PCV System			2
Gas Cap			2
Functional Pressure Test Record:	None	None	
Start Year			98
First Model Year[2]			75 / 81
Last Model Year			20
Veh. Types Subject to Inspection (1= No, 2= Yes)			
LDGV			2
LDGT1			2
LDGT2			2
HDGV			1
Program Type (1= Test only, 2= Test and repair)			1
Inspection Frequency (1= Annual, 2= Biennial)			1
Compliance Rate (%)			96

[1] PA97 ASM Test & Repair I/M Program is modeled as test only to claim 100% effectiveness.

[2] PA97 - Gas cap pressure for 1975 & newer model years (40% credit of EPA Pressure).
PA97 w/ASM - 1975-81 receive gas cap pressure tests.
PA97 w/ASM - 1981 & newer model years receive the full EPA pressure test.

TABLE 1d.

	2005 Uncontrolled Baseline	2005 Adjusted Baseline	2005 Control Strategy
ONE-TIME DATA (Cont'd):			
Functional Purge Test Recod:	None	None	
Start Year			98
First Model Year			81
Last Model Year			20
Veh. Types Subject to Inspection (1=No, 2= Yes)			
LDGV			2
LDGT1			2
LDGT2			2
HDGV			1
Program Type (1= Test only, 2= Test and repair)[1]			1
Inspection Frequency (1= Annual, 2= Biennial)			1
Compliance Rate (%)			96
Stage II & Onboard VRS Records:	None	None	None

[1] PA97 ASM Test & Repair I/M Program is modeled as test only to claim 100% effectiveness.

Philadelphia 5-County MOBILE Input Parameters

TABLE 1e.

	2005 Uncontrolled Baseline	2005 Adjusted Baseline	2005 Control Strategy
SCENARIO DATA:			
Scenario Record:			
Region	1	1	4
(1= Low Altitude, 4= Low Altitude w/ LEV Program)			
Calendar Year	05	05	05
Average Speed	*	*	*
(* Varies; Calculated from Network by PPAQ)			
Ambient Temperature	*	*	*
(* Varies by Temperature and Time of Day)			
Operating Mode Fractions			
Non-Catalyst, Cold Start	20.6	20.6	20.6
Catalyst, Hot Start	27.3	27.3	27.3
Catalyst, Cold Start	20.6	20.6	20.6
Month of Evaluation	7	7	7
NLEV Program Parameter Record:	None	None	
Start Year			99
I/M Program (1= Standard or No I/M Program; 2= "Maximum Benefit" I/M Program)			1
LDGT2 LEV Program (1= No NLEV program for LDGT2; 2 = NLEV Program for LDGT2)			1
Local Area Parameter Record:			
Scenario Name (* Generated by PPAQ)	*	*	*
Fuel Volatility Class	C	C	C
Minimum Daily Temperature	*	*	*
Maximum Daily Temperature	*	*	*
(* Varies by County and Time of Day; See attached memo for handling of diurnal emissions by time of day)			
Period 1 RVP (psi) (* Varies by County)	9.0	9.0	8.7
Period 2 RVP (psi) (* Varies by County)	9.0	9.0	8.7
Period 2 Start Year	20	20	20
Oxygenated Fuel Flag (1= No, 2= Yes)	1	1	1
Diesel Sales Fraction Flag (1= No, 2= Yes)	1	1	1
Reformulated Gasoline Flag (1= No, 2= Yes)	1	1	2
Oxygenated Fuels Record:	None	None	None
Diesel Sales Fractions Record:	None	None	None
VMT Mix by Vehicle Type			
(* Varies; Calculated from Network by PPAQ)	*	*	*
Additional Correction Factor Record:	None	None	None

Control Strategy Emissions Component Breakdown

Philadelphia 5-County Area
Control Strategy Component Breakout

1999 Credit Breakout

Scenario	Bucks County				Chester County				Delaware County			
	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)
1999												
Uncontrolled Baseline	35.42		31.98		23.00		27.18		23.67		19.49	
PA97 ASM5015		-11.76		-6.48		-7.28		-5.04		-7.55		-3.86
RFG		-4.49		-0.10		-2.71		-0.08		-3.13		-0.06
FMVCP		-1.33		-2.88		-0.98		-2.72		-1.14		-1.99
NLEV		0.00		0.00		0.00		0.00		0.00		0.00
HDDE standard		0.00		0.00		0.00		0.00		0.00		0.00
Control Stategy	17.83	-17.58	22.52	-9.46	12.03	-10.97	19.33	-7.84	11.86	-11.81	13.58	-5.91

Scenario	Montgomery County				Philadelphia County				Philadelphia 5-County Total			
	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)
1999												
Uncontrolled Baseline	41.19		38.92		53.57		38.83		176.85		156.40	
PA97 ASM5015		-12.91		-7.33		-19.19		-9.51		-58.69		-32.22
RFG		-5.30		-0.13		-6.93		-0.09		-22.56		-0.47
FMVCP		-1.90		-4.04		-1.59		-2.48		-6.95		-14.11
NLEV		0.00		0.00		0.00		0.00		0.00		0.00
HDDE standard		0.00		0.00		0.00		0.00		0.00		0.00
Control Stategy	21.08	-20.11	27.42	-11.50	25.87	-27.71	26.75	-12.08	88.66	-88.19	109.60	-46.80

Philadelphia 5-County Area
Control Strategy Component Breakout

2002 Credit Breakout

Scenario	Bucks County				Chester County				Delaware County			
	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)
2002												
Uncontrolled Baseline	36.61		32.34		24.01		27.88		24.40		19.70	
PA97 ASM5015		-12.52		-6.64		-7.82		-5.25		-7.92		-3.95
RFG		-7.16		-1.48		-4.37		-1.28		-4.95		-0.92
FMVCP		-2.65		-4.67		-1.91		-4.39		-2.01		-3.05
NLEV		-0.19		-0.33		-0.15		-0.33		-0.19		-0.26
HDDE Standard		0.00		0.00		0.00		0.00		0.00		0.00
Control Stategy	14.08	-22.53	19.21	-13.12	9.76	-14.26	16.63	-11.25	9.33	-15.07	11.51	-8.19

Scenario	Montgomery County				Philadelphia County				Philadelphia 5-County Total			
	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)
2002												
Uncontrolled Baseline	42.02		39.13		53.29		38.26		180.33		157.30	
PA97 ASM5015		-13.51		-7.48		-19.66		-9.40		-61.44		-32.73
RFG		-8.26		-1.84		-10.50		-1.65		-35.24		-7.17
FMVCP		-3.52		-6.22		-3.03		-4.26		-13.12		-22.59
NLEV		-0.28		-0.47		-0.19		-0.29		-1.01		-1.69
HDDE Standard		0.00		0.00		0.00		0.00		0.00		0.00
Control Stategy	16.45	-25.57	23.12	-16.01	19.91	-33.38	22.66	-15.60	69.52	-110.81	93.13	-64.17

Philadelphia 5-County Area
Control Strategy Component Breakout

2005 Credit Breakout

Scenario	Bucks County				Chester County				Delaware County			
	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)
2005												
Uncontrolled Baseline	38.45		33.09		25.64		28.95		25.62		20.17	
PA97 ASM5015		-13.62		-6.98		-8.68		-5.60		-8.57		-4.09
RFG		-7.51		-1.53		-4.66		-1.35		-5.20		-0.95
FMVCP		-4.19		-5.68		-3.01		-5.28		-3.02		-3.65
NLEV		-0.59		-0.95		-0.45		-0.93		-0.46		-0.66
HDDE Standard		0.00		-0.08		0.00		-0.08		0.00		-0.05
Control Stategy	12.53	-25.91	17.88	-15.21	8.84	-16.80	15.71	-13.25	8.37	-17.25	10.77	-9.40

Scenario	Montgomery County				Philadelphia County				Philadelphia 5-County Total			
	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)	VOC (tpd)	VOC Credit (tpd)	NOx (tpd)	NOx Credit (tpd)
2005												
Uncontrolled Baseline	43.54		39.84		53.69		38.17		186.94		160.22	
PA97 ASM5015		-14.41		-7.79		-20.11		-9.43		-65.38		-33.89
RFG		-8.59		-1.91		-10.62		-1.71		-36.59		-7.45
FMVCP		-5.24		-7.36		-4.89		-5.39		-20.35		-27.36
NLEV		-0.79		-1.32		-0.56		-0.85		-2.85		-4.71
HDDE Standard		0.00		-0.10		0.00		-0.09		0.00		-0.38
Control Stategy	14.51	-29.03	21.36	-18.47	17.50	-36.18	20.70	-17.47	61.76	-125.18	86.42	-73.80

VMT, VOC, CO and Nox Inventory and Forecast
Emissions by County by Functional Class

VMT, VOC, and NOx INVENTORY AND FORECAST
1999 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	1999 VMT speed	Growth from 1990	1999 Baseline	1999 Adjusted Baseline	1999 Control Strategy (from '99 AdjBase)	1999 Baseline	1999 Adjusted Baseline	1999 Control Strategy (from '99 AdjBase)
Bucks County									
Rural									
2 Other Prin Art	1,408,681	1,622,150	1 15	1,899	1,667	1,016	3,676	3,269	2,596
	57.1	56 1				-39 1%			-20 6%
6 Minor Arterial	483,037	556,252	1 15	662	571	344	997	871	703
	48 4	47.9				-39.7%			-19 3%
7 Major Collector	397,438	473,768	1 19	689	569	357	812	682	567
	38 4	37.8				-37 3%			-17 0%
8 Minor Collector	482,045	574,604	1.19	881	713	456	990	832	692
	37.1	35.6				-36 1%			-16 8%
9 Local	807,329	962,434	1 19	1,874	1,517	965	1,635	1,375	1,154
	27 5	26 4				-36.4%			-16 1%
Subtotal (kg)	3,578,530	4,189,208	1 17	6,004	5,037	3,138	8,110	7,030	5,712
(tons)	41 0	39.6		6 62	5 55	3 46	8 94	7 75	6 30
						-37 7%			-18 7%
Small Urban									
12 Other Fwy/Ex	8,797	9,772	1 11	13	12	7	26	24	18
	65 0	65 0				-39 7%			-22 8%
14 Prin Arterial	200,079	230,404	1 15	267	235	143	508	451	354
	57 1	56 3				-39 3%			-21 4%
16 Minor Arterial	10,764	12,393	1 15	21	18	11	20	18	14
	31 1	31 0				-40 6%			-20 8%
17 Collector	32,617	38,885	1 19	76	63	39	65	54	45
	26 2	26 0				-38 2%			-16 5%
19 Local	77,687	92,639	1.19	194	163	100	151	127	105
	23 6	23 6				-38.8%			-16 9%
Subtotal (kg)	329,944	384,093	1.16	571	491	299	770	673	537
(tons)	38.7	38 2		0 63	0.54	0.33	0 85	0 74	0 59
						-39 0%			-20 2%
Urban									
11 Interstate	1,884,145	2,092,690	1.11	2,708	2,496	1,468	5,569	5,171	3,986
	63 1	61.8				-41 2%			-22 9%
12 Other Fwy/Ex	764,982	849,646	1.11	1,121	1,011	609	2,289	2,066	1,612
	63 9	63.8				-39 7%			-22 0%
14 Prin. Arterial	3,104,337	3,574,775	1.15	7,176	5,921	3,683	5,913	5,153	4,124
	26.9	25 2				-37 8%			-20 0%
16 Minor Arterial	1,515,715	1,745,411	1.15	4,333	3,625	2,186	2,819	2,445	1,968
	20 1	19 4				-39.7%			-19 5%
17 Collector	822,383	980,386	1.19	5,095	3,313	2,370	1,765	1,417	1,246
	11 3	8 5				-28.5%			-12 1%
19 Local	850,012	1,013,275	1 19	5,120	3,737	2,425	1,781	1,458	1,246
	9 9	8 4				-35 1%			-14 6%
Subtotal (kg)	8,941,574	10,256,183	1 15	25,553	20,104	12,740	20,135	17,710	14,183
(tons)	22 8	19.9		28.17	22 16	14 04	22 19	19 52	15 63
						-36 6%			-19 9%
Bucks County Totals (kg)	12,850,048	14,829,484	1 15	32,128	25,632	16,177	29,015	25,413	20,432
(tons)	26 4	23 5		35 42	28 25	17 83	31 98	28 01	22 52
						-36 9%			-19 6%
Chester County									
Rural									
1 Interstates	926,736	1,123,328	1 21	1,453	1,199	806	3,238	2,676	2,387
	65 0	64 9				-32 7%			-10 8%
2 Other Prin Art	1,462,882	1,798,559	1 23	1,973	1,610	1,065	3,742	3,195	2,684
	55 9	54 0				-33 8%			-16 0%

VMT, VOC, and NOx INVENTORY AND FORECAST
1999 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	1999 VMT speed	Growth from 1990	1999 Baseline	1999 Adjusted Baseline	1999 Control Strategy (from '99 AdjBase)	1999 Baseline	1999 Adjusted Baseline	1999 Control Strategy (from '99 AdjBase)
6 Minor Arterial	679,547	835,472	1 23	943	755	498	1,424	1,164	1,008
	48.2	47 3				-34 1%			-13 4%
7 Major Collector	856,201	1,129,645	1.32	1,534	1,141	807	1,851	1,404	1,297
	38.9	38 2				-29.3%			-7 6%
8 Minor Collector	337,552	445,377	1 32	595	449	314	746	565	528
	39.4	39.1				-30 1%			-6 6%
9 Local	1,053,074	1,389,373	1.32	2,421	1,816	1,266	2,274	1,723	1,613
	28.6	28.2				-30.3%			-6 4%
Subtotal (kg)	5,315,992	6,721,754	1 26	8,919	6,970	4,756	13,274	10,727	9,517
(tons)	43.6	42 4		9.83	7.68	5 24	14 63	11 82	10 49
						-31.8%			-11 3%
Small Urban									
12 Other Fwy/Ex	44,995	54,540	1.21	69	57	38	144	119	102
	65.0	65 0				-32 9%			-13 8%
14 Prin. Arterial	43,911	53,986	1 23	61	50	34	125	103	89
	58.7	58 1				-33 6%			-13 3%
16 Minor Arterial	1,376	1,693	1.23	3	2	1	3	2	2
	30 9	30.7				-36 0%			-10 3%
Subtotal (kg)	90,282	110,219	1 22	133	109	73	271	224	194
(tons)	60 8	60 4		0 15	0 12	0 08	0 30	0 25	0 21
						-33 3%			-13 5%
Urban									
11 Interstate	30,098	36,484	1.21	47	39	26	105	87	77
	65.0	64 9				-32.9%			-10 9%
12 Other Fwy/Ex	1,923,471	2,331,538	1 21	2,696	2,312	1,472	5,424	4,728	3,834
	62 4	59.8				-36.3%			-18 9%
14 Prin. Arterial	1,327,721	1,632,374	1 23	2,930	2,282	1,528	2,580	2,110	1,809
	28.5	27 0				-33.1%			-14 3%
16 Minor Arterial	512,296	629,845	1 23	1,442	1,121	738	963	784	672
	20.8	19.8				-34 2%			-14 3%
17 Collector	493,058	650,511	1 32	2,112	1,462	1,054	1,031	771	725
	15.3	13 8				-27 9%			-5 9%
19 Local	454,946	600,249	1.32	2,591	1,788	1,267	1,006	748	711
	10 8	9.5				-29.2%			-5 0%
Subtotal (kg)	4,741,590	5,881,001	1.24	11,818	9,004	6,085	11,109	9,228	7,828
(tons)	26 8	24.3		13.03	9.93	6 71	12.24	10.17	8 63
						-32 4%			-15 2%
Chester County Totals (kg)	10,147,864	12,712,974	1 25	20,870	16,083	10,914	24,654	20,179	17,539
(tons)	33 8	31 6		23.00	17 73	12.03	27 18	22 24	19 33
						-32.1%			-13 1%
Delaware County									
Rural									
2 Other Prin Art	331,091	359,601	1 09	399	367	211	770	722	543
	55.7	55 0				-42.6%			-24 8%
6 Minor Arterial	56,202	61,042	1 09	73	66	37	98	91	67
	45 3	44 6				-43.6%			-26 6%
7 Major Collector	79,320	96,986	1 22	130	106	67	162	133	113
	39.5	39 3				-36 6%			-15 2%
8 Minor Collector	20,773	25,395	1 22	34	28	18	44	36	31
	39 5	39.4				-36 7%			-13 8%
9 Local	123,337	150,785	1 22	262	213	134	246	201	171
	28 8	28 6				-37 1%			-15 4%
Subtotal (kg)	610,723	693,809	1 14	898	780	466	1,320	1,183	924
(tons)	43 6	42 6		0 99	0 86	0 51	1 46	1 30	1 02
						-40 2%			-21 9%

VMT, VOC, and NOx INVENTORY AND FORECAST
1999 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	1999 VMT speed	Growth from 1990	1999 Baseline	1999 Adjusted Baseline	1999 Control Strategy (from '99 AdjBase)	1999 Baseline	1999 Adjusted Baseline	1999 Control Strategy (from '99 AdjBase)
Urban									
11 Interstate	1,081,394	1,998,025	1.85	2,635	1,376	1,365	4,038	2,965	2,896
	63 8	44.6				-0 8%			-2 3%
12 Other Fwy/Ex	184,803	341,448	1.85	405	230	218	805	466	554
	63.9	60 8				-5 2%			18 8%
14 Prin. Arterial	3,915,467	4,252,620	1.09	7,853	7,073	3,998	6,795	6,276	4,678
	27.2	26.4				-43 5%			-25 5%
16 Minor Arterial	913,314	991,959	1 09	2,255	2,029	1,130	1,545	1,420	1,065
	20.7	20.3				-44 3%			-25 0%
17 Collector	839,013	1,025,847	1.22	3,529	2,652	1,715	1,658	1,341	1,147
	14 4	13 1				-35 3%			-14 5%
19 Local	734,330	897,839	1.22	3,899	2,950	1,864	1,522	1,228	1,059
	10.6	9 6				-36.8%			-13 7%
Subtotal (kg)	7,668,321	9,507,738	1.24	20,575	16,310	10,289	16,363	13,696	11 399
(tons)	22 9	22.0		22 68	17 98	11 34	18 04	15 10	12 57
						-36 9%			-16 8%
Delaware County									
Totals (kg)	8,279,044	10,201,547	1.23	21,473	17,089	10,755	17,683	14,879	12,323
(tons)	23.7	22.7		23 67	18.84	11 86	19 49	16 40	13 58
						-37 1%			-17 2%
Montgomery County									
Rural									
2 Other Prin Art	1,971,971	2,234,181	1 13	2,425	2,141	1,297	4,602	4,179	3,245
	55 7	54 6				-39 4%			-22 4%
6 Minor Arterial	380,419	431,005	1 13	484	423	253	723	640	507
	47.9	47.3				-40 2%			-20 8%
7 Major Collector	255,182	300,644	1 18	414	347	216	490	418	343
	38.1	37.5				-37 8%			-18 1%
8 Minor Collector	182,382	214,883	1.18	295	246	154	363	308	257
	38.7	38.0				-37.4%			-16 8%
9 Local	657,835	775,020	1.18	1,325	1,120	689	1,267	1,076	895
	28.9	28.8				-38.5%			-16 9%
Subtotal (kg)	3,447,789	3,955,733	1.15	4,942	4,277	2,609	7,445	6,622	5,245
(tons)	44.5	43.7		5 45	4.71	2.88	8 21	7 30	5 78
						-39.0%			-20 8%
Small Urban									
12 Other Fwy/Ex	68,563	84,792	1.24	107	86	59	224	181	158
	65.0	65 0				-32 0%			-12 5%
14 Prin. Arterial	204,536	231,730	1.13	257	228	139	503	449	350
	58 5	58 0				-39 2%			-22 1%
16 Minor Arterial	72,000	81,568	1 13	132	116	69	130	115	90
	30.8	30 6				-40 7%			-21 3%
17 Collector	65,339	76,983	1.18	142	120	73	121	102	83
	26.0	25 8				-38 8%			-18 4%
19 Local	108,487	127,816	1 18	253	214	130	198	168	138
	23.6	23 5				-39.2%			-18 0%
Subtotal (kg)	518,925	602,889	1 16	891	765	470	1,176	1,016	820
(tons)	37 1	36 8		0 98	0 84	0 52	1 30	1 12	0 90
						-38 5%			-19 3%
Urban									
11 Interstate	2,719,850	3,363,607	1 24	3,956	3,249	2,113	7,378	6,849	5,309
	60 8	53 0				-34 9%			-22 5%
12 Other Fwy/Ex	999,388	1,235,938	1 24	1,397	1,182	756	2,695	2,382	1,884
	61 5	57 4				-36 0%			-20 9%
14 Prin Arterial	4,177,372	4,732,841	1 13	8,394	7,193	4,334	7,368	6,533	5 091

VMT, VOC, and NOx INVENTORY AND FORECAST
1999 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	1999 VMT speed	Growth from 1990	1999 Baseline	1999 Adjusted Baseline	1999 Control Strategy (from '99 AdjBase)	1999 Baseline	1999 Adjusted Baseline	1999 Control Strategy (from '99 AdjBase)
	28.2	27 2				-39 8%			-22 1%
16 Minor Arterial	2,234,060	2,531,120	1.13	5,900	4,998	2,985	3,872	3,421	2,708
	20.3	19 5				-40 3%			-20 8%
17 Collector	1,520,523	1,791,430	1.18	6,043	4,789	2,985	2,865	2,411	2,014
	14.3	13.2				-37 7%			-16 5%
19 Local	1,222,062	1,439,776	1.18	5,843	4,759	2,871	2,506	2,110	1,801
	10.9	10.4				-39 7%			-14 6%
Subtotal (kg)	12,873,255	15,094,712	1.17	31,533	26,170	16,043	26,684	23,706	18,807
(tons)	24 0	22.8		34.76	28 85	17 68	29 41	26 13	20 73
						-38 7%			-20 7%
Montgomery County									
Totals (kg)	16,839,968	19,653,334	1 17	37,367	31,212	19,123	35,305	31,343	24,872
(tons)	26 8	25.5		41 19	34 41	21.08	38 92	34 55	27 42
						-38 7%			-20 6%
Philadelphia County									
Urban									
11 Interstate	4,230,651	4,566,899	1 08	6,856	6,028	3,436	11,055	10,943	7,795
	53 7	48 5				-43 0%			-28 8%
12 Other Fwy/Ex	409,025	441,533	1 08	627	590	321	1,190	1,138	804
	60.7	59 2				-45 6%			-29 3%
14 Prin Arterial	6,332,080	6,586,634	1 04	17,848	16,343	8,590	12,127	11,654	8 259
	21.7	20 7				-47 4%			-29 1%
16 Minor Arterial	2,726,627	2,836,268	1 04	10,692	9,860	5,112	5,274	5,050	3,598
	14 8	14.1				-48.2%			-28 8%
17 Collector	1,217,717	1,276,257	1 05	4,667	4,381	2,252	2,369	2,257	1,615
	14 7	14 5				-48 6%			-28 5%
19 Local	1,569,364	1,644,773	1 05	7,913	7,455	3,754	3,213	3,058	2,195
	10.3	10 1				-49 7%			-28 2%
Subtotal (kg)	16,485,464	17,352,364	1 05	48,603	44,657	23,465	35,228	34,100	24,265
(tons)	20.7	19 9		53 57	49.23	25 87	38 83	37 59	26 75
						-47.5%			-28 8%
Philadelphia County									
Totals (kg)	16,485,464	17,352,364	1.05	48,603	44,657	23,465	35,228	34,100	24,265
(tons)	20.7	19.9		53 57	49 23	25 87	38 83	37 59	26 75
						-47 5%			-28 8%
Philadelphia 5-County Area									
Totals (kg)	64,602,388	74,749,696	1 16	160,441	134,674	80,435	141,885	125,914	99,431
(tons)	25.2	23.9		176 85	148 45	88.66	156 40	138 80	109 60
						-40.3%			-21 0%

VMT, VOC, and NOx INVENTORY AND FORECAST
2002 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	2002 VMT speed	Growth from 1990	2002 Baseline	2002 Adjusted Baseline	2002 Control Strategy (from '02 AdjBase)	2002 Baseline	2002 Adjusted Baseline	2002 Control Strategy (from '02 AdjBase)
Bucks County									
Rural									
2 Other Prin Art	1,408,681	1,677,990	1 19	1,876	1,595	822	3,675	3,173	2,350
	57.1	55 9				-48 5%			-25 9%
6 Minor Arterial	483,037	575,379	1.19	658	548	280	1,008	854	643
	48 4	47.8				-48 9%			-24 7%
7 Major Collector	397,438	492,947	1.24	696	552	288	832	671	524
	38 4	37.6				-47.9%			-22 0%
8 Minor Collector	482,045	597,838	1.24	900	692	368	1,009	817	640
	37.1	35.2				-46.8%			-21 8%
9 Local	807,329	1,001,132	1.24	1,920	1,478	773	1,671	1,353	1,064
	27.5	26 0				-47 7%			-21 4%
Subtotal (kg)	3,578,530	4,345,286	1.21	6,049	4,864	2,531	8,195	6,868	5,220
(tons)	41 0	39 3		6 67	5 36	2 79	9 03	7 57	5 75
						-48 0%			-24 0%
Small Urban									
12 Other Fwy/Ex	8,797	10,094	1 15	13	11	6	26	23	16
	65 0	65 0				-48 2%			-27 9%
14 Prin Arterial	200,079	238,331	1 19	265	225	116	510	439	321
	57 1	56 0				-48 3%			-26 8%
16 Minor Arterial	10,764	12,821	1 19	21	18	9	21	17	13
	31 1	30 9				-51.6%			-26 2%
17 Collector	32,617	40,450	1.24	77	62	31	67	54	42
	26 2	25 9				-49 6%			-21 9%
19 Local	77,687	96,337	1 24	197	159	79	155	125	97
	23 6	23 6				-50.5%			-22 2%
Subtotal (kg)	329,944	398,033	1 21	573	474	240	778	658	490
(tons)	38.7	38 0		0.63	0 52	0 26	0 86	0 72	0 54
						-49 4%			-25 5%
Urban									
11 Interstate	1,884,145	2,162,036	1 15	2,626	2,358	1,179	5,508	4,996	3,563
	63.1	61 2				-50.0%			-28 7%
12 Other Fwy/Ex	764,982	877,817	1 15	1,094	955	492	2,285	1,998	1,463
	63 9	63 8				-48 5%			-26 8%
14 Prin. Arterial	3,104,337	3,697,835	1.19	7,342	5,773	2,944	6,010	5,074	3,789
	26.9	24 8				-49.0%			-25 3%
16 Minor Arterial	1,515,715	1,805,487	1 19	4,453	3,552	1,729	2,878	2,412	1,813
	20 1	19 2				-51 3%			-24 8%
17 Collector	822,383	1,020,000	1 24	5,583	3,246	1,825	1,832	1,396	1,172
	11 3	7 9				-43 8%			-16 1%
19 Local	850,012	1,054,229	1 24	5,490	3,659	1,835	1,848	1,443	1,170
	9 9	8 0				-49.8%			-18 9%
Subtotal (kg)	8,941,574	10,617,404	1 19	26,587	19,543	10,003	20,361	17,318	12,971
(tons)	22 8	19 1		29.31	21 54	11 03	22 44	19 09	14 30
						-48 8%			-25 1%
Bucks County Totals (kg)	12,850,048	15,360,723	1.20	33,209	24,881	12,774	29,335	24,844	18,681
(tons)	26 4	22 7		36 61	27 43	14 08	32.34	27 39	20 59
						-48 7%			-24 8%
								w/ Phase II NOx Credit	19 21
									-29 8%
Chester County									
Rural									
1 Interstates	926,736	1,178,520	1 27	1,441	1,135	662	3,267	2,575	2,182
	65 0	64 9				-41 7%			-15 3%
2 Other Prin Art	1,462,882	1,908,091	1 30	2,021	1,542	889	3,801	3,106	2,454

*Phase II NOx Credit Calculated using MOBILE5b
7/31/99

VMT, VOC, and NOx INVENTORY AND FORECAST
2002 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	2002 VMT speed	Growth from 1990	2002 Baseline	2002 Adjusted Baseline	2002 Control Strategy (from '02 AdjBase)	2002 Baseline	2002 Adjusted Baseline	2002 Control Strategy (from '02 AdjBase)
	55.9	53.4				-42 4%			-21 0%
6 Minor Arterial	679,547	886,370	1 30	974	728	416	1,478	1,142	942
	48.2	46.9				-42.8%			-17 5%
7 Major Collector	856,201	1,201,113	1.40	1,592	1,111	664	1,932	1,381	1,218
	38.9	37.9				-40.2%			-11 8%
8 Minor Collector	337,552	473,510	1.40	615	435	257	778	555	496
	39 4	39.1				-40.9%			-10 7%
9 Local	1,053,074	1,477,058	1.40	2,525	1,771	1,029	2,376	1,694	1,515
	28.6	28.1				-41.9%			-10 6%
Subtotal (kg)	5,315,992	7,124,662	1.34	9,168	6,722	3,917	13,633	10,454	8,806
(tons)	43.6	42.1		10.11	7 41	4.32	15.03	11 52	9 71
						-41.7%			-15 8%
Small Urban									
12 Other Fwy/Ex	44,995	57,219	1.27	68	54	31	146	115	94
	65 0	65.0				-41.7%			-18 4%
14 Prin. Arterial	43,911	57,274	1 30	62	48	28	128	100	83
	58 7	57 9				-42 1%			-17 2%
16 Minor Arterial	1,376	1,796	1.31	3	2	1	3	2	2
	30.9	30 5				-47.2%			-17 8%
Subtotal (kg)	90,282	116,289	1 29	133	104	60	277	217	179
(tons)	60.8	60.3		0 15	0 11	0 07	0 31	0 24	0 20
						-42 0%			-17 9%
Urban									
11 Interstate	30,098	38,276	1 27	47	37	21	106	83	70
	65.0	64 9				-41.6%			-15 4%
12 Other Fwy/Ex	1,923,471	2,446,074	1 27	2,685	2,202	1,205	5,416	4,590	3,445
	62.4	58.8				-45.3%			-25 0%
14 Prin. Arterial	1,327,721	1,731,796	1.30	3,095	2,230	1,249	2,696	2,080	1,694
	28 5	26 4				-44.0%			-18 5%
16 Minor Arterial	512,296	668,207	1.30	1,541	1,101	601	1,009	774	634
	20 8	19.5				-45.4%			-18 0%
17 Collector	493,058	691,681	1 40	2,289	1,437	820	1,087	762	687
	15.3	13 3				-42 9%			-9 9%
19 Local	454,946	638,207	1 40	2,828	1,755	976	1,065	738	678
	10.8	8.9				-44.4%			-8 2%
Subtotal (kg)	4,741,590	6,214,241	1 31	12,484	8,761	4,872	11,378	9,028	7,208
(tons)	26.8	23.4		13 76	9.66	5.37	12 54	9 95	7 95
						-44.4%			-20 2%
Chester County Totals (kg)	10,147,864	13,455,192	1 33	21,785	15,587	8,850	25,288	19,699	16,193
(tons)	33.8	30 8		24 01	17 18	9.76	27 88	21 71	17 85
						-43.2%			-17 8%
								w/ Phase II NOx Credit	16 63
									-23 4%
Delaware County									
Rural									
2 Other Prin. Art	331,091	371,903	1 12	396	353	172	769	702	489
	55 7	54 7				-51 2%			-30 3%
6 Minor Arterial	56,202	63,132	1 12	73	64	30	100	89	61
	45 3	44 2				-52.3%			-31 7%
7 Major Collector	79,320	100,658	1 27	131	103	54	165	130	103
	39 5	39 2				-47 3%			-20 7%
8 Minor Collector	20,773	26,364	1 27	35	27	14	45	35	28
	39 5	39 4				-47 5%			-19 3%
9 Local	123,337	156,532	1 27	265	208	107	251	198	157
	28 8	28 6				-48 8%			-20 6%

*Phase II NOx Credit Calculated using MOBILE5b
7/31/99

VMT, VOC, and NOx INVENTORY AND FORECAST
2002 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	2002 VMT speed	Growth from 1990	2002 Baseline	2002 Adjusted Baseline	2002 Control Strategy (from '02 AdjBase)	2002 Baseline	2002 Adjusted Baseline	2002 Control Strategy (from '02 AdjBase)
Subtotal (kg)	610,723	718,589	1 18	900	755	378	1,329	1,154	839
(tons)	43.6	42.4		0.99	0 83	0 42	1 47	1 27	0 92
						-49 9%			-27 3%
Urban									
11 Interstate	1,081,394	2,071,970	1 92	2,754	1,303	1,145	4,003	2,854	2,592
	63 8	42 0				-12 2%			-9 2%
12 Other Fwy/Ex	184,803	354,087	1.92	397	219	176	799	451	496
	63.9	60 1				-19 5%			10 0%
14 Prin. Arterial	3,915,467	4,398,085	1.12	8,035	6,917	3,188	6,908	6,174	4,287
	27 2	26.0				-53 9%			-30 6%
16 Minor Arterial	913,314	1,025,894	1.12	2,315	1,995	899	1,573	1,398	980
	20 7	20.1				-54 9%			-29 9%
17 Collector	839,013	1,064,749	1 27	3,677	2,608	1,292	1,700	1,321	1,065
	14 4	12 7				-50.5%			-19 3%
19 Local	734,330	931,897	1 27	4,054	2,894	1,385	1,562	1,207	981
	10 6	9 3				-52 1%			-18 7%
Subtotal (kg)	7,668,321	9,846,682	1 28	21,232	15,935	8,084	16,545	13,405	10,402
(tons)	22.9	21 4		23 40	17 57	8 91	18 24	14 78	11 47
						-49 3%			-22 4%
Delaware County Totals (kg)	8,279,044	10,565,271	1 28	22,132	16,690	8,462	17,875	14,560	11,241
(tons)	23 7	22.2		24 40	18 40	9 33	19 70	16 05	12 39
						-49.3%			-22 8%
								w/ Phase II NOx Credit	11 51
									-28 3%
Montgomery County									
Rural									
2 Other Prin. Art	1,971,971	2,306,353	1.17	2,411	2,065	1,060	4,598	4,066	2,928
	55.7	54.3				-48 7%			-28 0%
6 Minor Arterial	380,419	444,927	1 17	486	408	206	732	629	462
	47 9	47.1				-49 7%			-26 7%
7 Major Collector	255,182	312,025	1 22	419	337	173	501	410	315
	38.1	37 4				-48.8%			-23 2%
8 Minor Collector	182,382	222,995	1 22	299	240	124	368	302	235
	38 7	37.9				-48 3%			-22 2%
9 Local	657,835	804,180	1 22	1,346	1,097	547	1,292	1,058	823
	28 9	28 7				-50 2%			-22 3%
Subtotal (kg)	3,447,789	4,090,480	1.19	4,961	4,147	2,109	7,491	6,466	4,762
(tons)	44 5	43 4		5 47	4 57	2 32	8 26	7 13	5 25
						-49.2%			-26 3%
Small Urban									
12 Other Fwy/Ex	68,563	87,138	1 27	104	82	48	222	175	142
	65.0	65 0				-41 8%			-18 7%
14 Prin. Arterial	204,536	239,216	1.17	255	220	113	505	438	317
	58 5	57 9				-48.7%			-27 6%
16 Minor Arterial	72,000	84,207	1.17	134	113	54	132	113	83
	30 8	30 5				-52.3%			-26 9%
17 Collector	65,339	79,889	1 22	145	118	58	123	101	77
	26 0	25 7				-50 7%			-23 7%
19 Local	108,487	132,702	1 22	258	210	103	203	166	127
	23 6	23 5				-51 1%			-23 4%
Subtotal (kg)	518,925	623,152	1 20	896	744	376	1,187	993	746
(tons)	37 1	36 7		0 99	0 82	0 41	1 31	1 09	0 82
						-49 5%			-24 8%
Urban									
11 Interstate	2,719,850	3,456,658	1 27	3,958	3,109	1,710	7,218	6,615	4 701

*Phase II NOx Credit Calculated using MOBILE5b
7/31/99

VMT, VOC, and NOx INVENTORY AND FORECAST
2002 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	2002 VMT speed	Growth from 1990	2002 Baseline	2002 Adjusted Baseline	2002 Control Strategy (from '02 AdjBase)	2002 Baseline	2002 Adjusted Baseline	2002 Control Strategy (from '02 AdjBase)
	60.8	51 8				-45 0%			-28 9%
12 Other Fwy/Ex	999,388	1,270,120	1 27	1,379	1,128	606	2,651	2,314	1,666
	61.5	56.5				-46 3%			-28 0%
14 Prin. Arterial	4,177,372	4,885,737	1.17	8,545	7,057	3,420	7,498	6,438	4,665
	28 2	27 0				-51.5%			-27 5%
16 Minor Arterial	2,234,060	2,612,873	1.17	6,086	4,921	2,354	3,954	3,383	2,486
	20.3	19 3				-52.2%			-26 5%
17 Collector	1,520,523	1,859,262	1.22	6,273	4,714	2,229	2,940	2,377	1,861
	14 3	12.9				-52.7%			-21 7%
19 Local	1,222,062	1,494,269	1.22	6,025	4,674	2,119	2,560	2,069	1,660
	10.9	10.2				-54 7%			-19 8%
Subtotal (kg)	12,873,255	15,578,919	1.21	32,266	25,603	12,438	26,820	23,196	17,038
(tons)	24 0	22.4		35 57	28.22	13.71	29 56	25 57	18 78
						-51 4%			-26 5%
Montgomery County									
Totals (kg)	16,839,968	20,292,552	1.21	38,123	30,494	14,923	35,498	30,654	22,546
(tons)	26 8	25 1		42 02	33 61	16 45	39 13	33 79	24 85
						-51 1%			-26 5%
								w/ Phase II NOx Credit	23 12
									-31 6%
Philadelphia County									
Urban									
11 Interstate	4,230,651	4,632,311	1 09	6,736	5,739	2,782	10,745	10,536	6,954
	53.7	47.6				-51 5%			-34 0%
12 Other Fwy/Ex	409,025	447,855	1 09	601	557	257	1,152	1,094	718
	60.7	58 9				-53 8%			-34 4%
14 Prin. Arterial	6,332,080	6,651,078	1.05	17,845	16,039	6,745	12,023	11,430	7,494
	21.7	20.5				-57.9%			-34 4%
16 Minor Arterial	2,726,627	2,863,979	1.05	10,670	9,665	3,830	5,237	4,959	3,282
	14.8	14 0				-60 4%			-33.8%
17 Collector	1,217,717	1,292,459	1.06	4,648	4,294	1,693	2,357	2,216	1,472
	14.7	14 4				-60.6%			-33 6%
19 Local	1,569,364	1,665,681	1.06	7,841	7,267	2,752	3,196	2,997	2,011
	10 3	10.1				-62.1%			-32 9%
Subtotal (kg)	16,485,464	17,553,364	1 06	48,341	43,561	18,059	34,710	33,233	21,932
(tons)	20.7	19.7		53 29	48 02	19.91	38.26	36.63	24 18
						-58.5%			-34 0%
Philadelphia County									
Totals (kg)	16,485,464	17,553,364	1 06	48,341	43,561	18,059	34,710	33,233	21,932
(tons)	20.7	19.7		53 29	48 02	19.91	38 26	36 63	24 18
						-58.5%			-34 0%
								w/ Phase II NOx Credit	22 66
									-38 2%
Philadelphia 5-County Area									
Totals (kg)	64,602,388	77,227,104	1 20	163,591	131,213	63,068	142,705	122,989	90,593
(tons)	25 2	23 5		180 33	144 64	69 52	157 30	135 57	99 86
						-51.9%			-26 3%
								w/ Phase II NOx Credit	93 13
									-31 3%

*Phase II NOx Credit Calculated using MOBILE5b
7/31/99

VMT, VOC, and NOx INVENTORY AND FORECAST
2005 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	2005 VMT speed	Growth from 1990	2005 Baseline	2005 Adjusted Baseline	2005 Control Strategy (from '05 AdjBase)	2005 Baseline	2005 Adjusted Baseline	2005 Control Strategy (from '05 AdjBase)
Bucks County									
Rural									
2 Other Prin. Art	1,408,681	1,733,864	1 23	1,892	1,559	727	3,730	3,138	2,188
	57 1	55 6				-53 4%			-30 3%
6 Minor Arterial	483,037	594,549	1 23	672	538	247	1,036	850	604
	48.4	47 7				-54.1%			-29 0%
7 Major Collector	397,438	512,074	1.29	717	544	256	860	668	497
	38.4	37.4				-53 0%			-25 7%
8 Minor Collector	482,045	621,066	1 29	930	682	327	1,043	814	606
	37 1	34.7				-52.0%			-25 5%
9 Local	807,329	1,040,176	1.29	1,993	1,459	689	1,725	1,347	1,008
	27.5	25.7				-52 8%			-25 2%
Subtotal (kg)	3,578,530	4,501,729	1.26	6,204	4,782	2,246	8,394	6,817	4,903
(tons)	41 0	38 9		6 84	5.27	2 48	9 25	7 51	5 40
						-53 0%			-28 1%
Small Urban									
12 Other Fwy/Ex	8,797	10,418	1 18	13	11	5	27	23	15
	65.0	65.0				-52 8%			-31 8%
14 Prin Arterial	200,079	246,267	1 23	267	220	102	518	435	299
	57.1	55.8				-53 6%			-31 1%
16 Minor Arterial	10,764	13,246	1 23	22	17	7	21	17	12
	31 1	30.9				-57 1%			-30 2%
17 Collector	32,617	42,025	1 29	80	61	27	69	53	40
	26 2	25 9				-55 1%			-25 8%
19 Local	77,687	100,069	1.29	203	157	70	160	124	92
	23.6	23 6				-55 7%			-25 6%
Subtotal (kg)	329,944	412,025	1.25	584	467	212	795	652	459
(tons)	38.7	37.9		0.64	0.51	0 23	0 88	0.72	0 51
						-54.6%			-29 6%
Urban									
11 Interstate	1,884,145	2,231,388	1 18	2,623	2,298	1,032	5,519	4,918	3,271
	63 1	60.5				-55.1%			-33 5%
12 Other Fwy/Ex	764,982	905,970	1 18	1,100	931	435	2,322	1,971	1,362
	63.9	63 7				-53 3%			-30 9%
14 Prin. Arterial	3,104,337	3,820,914	1.23	7,640	5,713	2,616	6,185	5,058	3,576
	26.9	24 3				-54 2%			-29 3%
16 Minor Arterial	1,515,715	1,865,584	1.23	4,616	3,519	1,530	2,961	2,401	1,715
	20.1	19 0				-56 5%			-28 6%
17 Collector	822,383	1,059,580	1 29	6,215	3,206	1,668	1,917	1,388	1,122
	11 3	7.2				-48.0%			-19 2%
19 Local	850,012	1,095,163	1.29	5,899	3,613	1,632	1,926	1,431	1,117
	9.9	7 6				-54 8%			-21 9%
Subtotal (kg)	8,941,574	10,978,599	1.23	28,092	19,281	8,913	20,830	17,167	12,163
(tons)	22 8	18 4		30 97	21 25	9 82	22.96	18.92	13 41
						-53 8%			-29 1%
Bucks County Totals (kg)	12,850,048	15,892,353	1 24	34,880	24,531	11,371	30,019	24,636	17,525
(tons)	26 4	22 0		38 45	27 04	12 53	33 09	27 16	19 32
						-53 6%			-28 9%
								w/ Phase II NOx Credit	17 88
									-34 2%
Chester County									
Rural									
1 Interstates	926,736	1,235,734	1 33	1,482	1,113	594	3,369	2,530	2,050
	65 0	64 9				-46 6%			-19 0%
2 Other Prin Art	1,462,882	2,017,628	1 38	2,117	1,531	806	3,919	3,076	2,311

*Phase II NOx Credit Calculated using MOBILE5b
7/31/99

VMT, VOC, and NOx INVENTORY AND FORECAST
2005 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	2005 VMT speed	Growth from 1990	2005 Baseline	2005 Adjusted Baseline	2005 Control Strategy (from '05 AdjBase)	2005 Baseline	2005 Adjusted Baseline	2005 Control Strategy (from '05 AdjBase)
	55 9	52 7				-47 3%			-24 9%
6 Minor Arterial	679,547	937,261	1 38	1,029	723	380	1,556	1,138	904
	48 2	46 6				-47.5%			-20 5%
7 Major Collector	856,201	1,272,600	1 49	1,687	1,101	601	2,041	1,377	1,178
	38.9	37.7				-45 4%			-14 5%
8 Minor Collector	337,552	501,709	1.49	648	431	233	822	553	478
	39.4	39 0				-45 9%			-13 6%
9 Local	1,053,074	1,565,162	1.49	2,663	1,758	929	2,503	1,689	1,461
	28.6	27.9				-47.2%			-13 5%
Subtotal (kg)	5,315,992	7,530,094	1.42	9,626	6,658	3,543	14,210	10,364	8,382
(tons)	43.6	41.8		10.61	7 34	3 91	15 66	11 42	9 24
						-46 8%			-19 1%
Small Urban									
12 Other Fwy/Ex	44,995	59,998	1.33	71	53	28	152	114	89
	65 0	65 0				-46 9%			-21 8%
14 Prin Arterial	43,911	60,565	1 38	65	48	25	133	99	78
	58 7	57 6				-47.3%			-20 7%
16 Minor Arterial	1,376	1,899	1 38	3	2	1	3	2	2
	30 9	30 4				-52 1%			-19 6%
Subtotal (kg)	90,282	122,462	1 36	138	103	54	287	215	169
(tons)	60 8	60 1		0 15	0 11	0 06	0 32	0 24	0 19
						-47.2%			-21 2%
Urban									
11 Interstate	30,098	40,135	1.33	48	36	19	109	82	66
	65.0	64 9				-46 8%			-19 3%
12 Other Fwy/Ex	1,923,471	2,564,818	1 33	2,760	2,171	1,069	5,474	4,545	3,190
	62.4	57.5				-50 8%			-29 8%
14 Prin. Arterial	1,327,721	1,831,219	1.38	3,309	2,212	1,138	2,839	2,071	1,637
	28.5	25 9				-48.5%			-20 9%
16 Minor Arterial	512,296	706,578	1.38	1,669	1,095	549	1,062	770	612
	20 8	19 0				-49.9%			-20 5%
17 Collector	493,058	732,860	1 49	2,487	1,426	741	1,150	759	667
	15 3	12.7				-48 0%			-12 1%
19 Local	454,946	676,194	1.49	3,222	1,738	904	1,136	734	661
	10.8	8.3				-48 0%			-9 9%
Subtotal (kg)	4,741,590	6,551,804	1.38	13,495	8,678	4,420	11,770	8,960	6,833
(tons)	26.8	22 4		14 88	9 57	4.87	12.97	9 88	7 53
						-49.1%			-23 7%
Chester County Totals (kg)	10,147,864	14,204,360	1 40	23,259	15,438	8,017	26,267	19,538	15,384
(tons)	33.8	29 9		25 64	17 02	8.84	28.95	21 54	16 96
						-48.1%			-21 3%
								w/ Phase II NOx Credit	15 71
									-27 1%
Delaware County									
Rural									
2 Other Prin Art	331,091	384,199	1 16	405	348	155	778	693	455
	55.7	54 4				-55.6%			-34 4%
6 Minor Arterial	56,202	65,219	1 16	76	63	27	103	89	58
	45 3	43 9				-57 4%			-35 1%
7 Major Collector	79,320	104,334	1 32	136	102	48	170	130	98
	39 5	39 1				-52 8%			-24 4%
8 Minor Collector	20,773	27,326	1 32	36	27	13	46	35	27
	39 5	39 3				-52 6%			-23 2%
9 Local	123,337	162,241	1 32	273	207	95	259	197	149
	28 8	28 6				-54 1%			-24 2%

*Phase II NOx Credit Calculated using MOBILE5b
7/31/99

VMT, VOC, and NOx INVENTORY AND FORECAST
2005 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	2005 VMT speed	Growth from 1990	2005 Baseline	2005 Adjusted Baseline	2005 Control Strategy (from '05 AdjBase)	2005 Baseline	2005 Adjusted Baseline	2005 Control Strategy (from '05 AdjBase)
Subtotal (kg)	610,723	743,319	1.22	925	747	337	1,355	1,143	786
(tons)	43 6	42.3		1 02	0 82	0 37	1 49	1 26	0 87
						-54 9%			-31 2%
Urban									
11 Interstate	1,081,394	2,145,931	1.98	2,979	1,279	1,064	4,059	2,804	2,417
	63.8	39.3				-16 8%			-13 8%
12 Other Fwy/Ex	184,803	366,728	1.98	404	215	157	802	446	458
	63.9	59.2				-27.0%			2 8%
14 Prin Arterial	3,915,467	4,543,515	1.16	8,373	6,865	2,853	7,097	6,148	4,054
	27 2	25.6				-58 4%			-34 1%
16 Minor Arterial	913,314	1,059,806	1 16	2,408	1,986	804	1,613	1,390	925
	20.7	19 9				-59 5%			-33 5%
17 Collector	839,013	1,103,620	1 32	3,883	2,594	1,152	1,758	1,309	1,011
	14.4	12 3				-55 6%			-22 8%
19 Local	734,330	965,908	1 32	4,272	2,872	1,229	1,614	1,198	933
	10.6	9 0				-57 2%			-22 1%
Subtotal (kg)	7,668,321	10,185,508	1.33	22,320	15,812	7,259	16,943	13,294	9,798
(tons)	22 9	20 9		24.60	17 43	8 00	18 68	14 65	10 80
						-54 1%			-26 3%
Delaware County Totals (kg)	8,279,044	10,928,827	1 32	23,245	16,560	7,596	18,299	14,438	10,584
(tons)	23.7	21 6		25 62	18 25	8 37	20 17	15 91	11 67
						-54 1%			-26 7%
								w/ Phase II NOx Credit	10 77
									-32 3%
Montgomery County									
Rural									
2 Other Prin. Art	1,971,971	2,378,546	1.21	2,460	2,036	937	4,662	4,026	2,713
	55.7	54 0				-54 0%			-32 6%
6 Minor Arterial	380,419	458,849	1 21	497	404	182	753	625	433
	47 9	46 9				-54 9%			-30 7%
7 Major Collector	255,182	323,410	1 27	432	334	153	517	409	298
	38.1	37 2				-54 3%			-27 1%
8 Minor Collector	182,382	231,158	1 27	308	237	110	380	300	222
	38 7	37.7				-53.4%			-26 0%
9 Local	657,835	833,723	1 27	1,387	1,089	483	1,333	1,052	776
	28.9	28 7				-55 7%			-26 2%
Subtotal (kg)	3,447,789	4,225,686	1.23	5,083	4,100	1,864	7,645	6,413	4,443
(tons)	44 5	43.2		5.60	4 52	2.06	8.43	7 07	4 90
						-54.5%			-30 7%
Small Urban									
12 Other Fwy/Ex	68,563	89,484	1.31	105	81	42	225	173	132
	65 0	65 0				-48.0%			-23 6%
14 Prin. Arterial	204,536	246,705	1.21	259	217	100	515	434	296
	58 5	57 8				-54 0%			-31 9%
16 Minor Arterial	72,000	86,840	1 21	137	113	48	136	113	78
	30 8	30 4				-57.6%			-31 1%
17 Collector	65,339	82,818	1 27	150	117	51	127	100	73
	26 0	25 7				-56 0%			-27 6%
19 Local	108,487	137,482	1 27	266	209	91	210	165	120
	23 6	23 5				-56 6%			-27 6%
Subtotal (kg)	518,925	643,329	1 24	917	736	332	1,213	986	698
(tons)	37 1	36 6		1 01	0 81	0 37	1 34	1 09	0 77
						-55 0%			-29 2%
Urban									
11 Interstate	2,719,850	3,549,737	1 31	4,056	3,046	1,516	7,184	6,524	4 277

*Phase II NOx Credit Calculated using MOBILE5b
7/31/99

VMT, VOC, and NOx INVENTORY AND FORECAST
2005 Emissions by County by Functional Class

	VMT			VOC (kg)			NOx (kg)		
	1990 VMT speed	2005 VMT speed	Growth from 1990	2005 Baseline	2005 Adjusted Baseline	2005 Control Strategy (from '05 AdjBase)	2005 Baseline	2005 Adjusted Baseline	2005 Control Strategy (from '05 AdjBase)
	60.8	50.5				-50.2%			-34 4%
12 Other Fwy/Ex	999,388	1,304,320	1 31	1,391	1,111	531	2,649	2,290	1,533
	61 5	55 6				-52 2%			-33 1%
14 Prin Arterial	4,177,372	5,038,627	1 21	8,836	7,002	3,017	7,706	6,425	4,389
	28 2	26 7				-56 9%			-31.7%
16 Minor Arterial	2,234,060	2,694,667	1.21	6,338	4,887	2,082	4,061	3,369	2,329
	20.3	19.0				-57.4%			-30 9%
17 Collector	1,520,523	1,927,083	1.27	6,591	4,681	1,962	3,045	2,363	1,763
	14 3	12 6				-58 1%			-25 4%
19 Local	1,222,062	1,548,829	1 27	6,286	4,626	1,860	2,635	2,053	1,566
	10 9	10.0				-59.8%			-23.7%
Subtotal (kg)	12,873,255	16,063,263	1.25	33,499	25,353	10,968	27,281	23,024	15,857
(tons)	24.0	21.9		36.93	27 95	12.09	30 07	25 38	17 48
						-56 7%			-31 1%
Montgomery County									
Totals (kg)	16,839,968	20,932,278	1.24	39,500	30,189	13,164	36,139	30,423	20,998
(tons)	26 8	24 7		43 54	33.28	14 51	39 84	33 53	23 15
						-56 4%			-31 0%
								w/ Phase II NOx Credit	21 36
									-36 3%
Philadelphia County									
Urban									
11 Interstate	4,230,651	4,697,752	1 11	6,773	5,592	2,479	10,658	10,332	6,373
	53 7	46 7				-55 7%			-38 3%
12 Other Fwy/Ex	409,025	454,186	1.11	592	543	226	1,138	1,072	658
	60 7	58.6				-58 4%			-38 6%
14 Prin. Arterial	6,332,080	6,715,550	1.06	18,036	15,906	5,973	12,026	11,320	6,945
	21.7	20 3				-62.4%			-38 6%
16 Minor Arterial	2,726,627	2,891,738	1 06	10,741	9,590	3,337	5,237	4,911	3,044
	14.8	13 9				-65.2%			-38 0%
17 Collector	1,217,717	1,308,670	1.07	4,693	4,261	1,478	2,363	2,191	1,371
	14 7	14.3				-65.3%			-37 4%
19 Local	1,569,364	1,686,612	1 07	7,870	7,189	2,386	3,204	2,964	1,865
	10.3	10.1				-66.8%			-37 1%
Subtotal (kg)	16,485,464	17,754,508	1 08	48,705	43,080	15,879	34,626	32,789	20,256
(tons)	20.7	19.6		53.69	47.49	17.50	38.17	36 14	22 33
						-63 1%			-38 2%
Philadelphia County									
Totals (kg)	16,485,464	17,754,508	1 08	48,705	43,080	15,879	34,626	32,789	20,256
(tons)	20.7	19.6		53.69	47 49	17.50	38.17	36 14	22 33
						-63.1%			-38 2%
								w/ Phase II NOx Credit	20 70
									-42 7%
Philadelphia 5-County Area									
Totals (kg)	64,602,388	79,712,320	1 23	169,588	129,797	56,027	145,351	121,824	84,748
(tons)	25 2	23 0		186.94	143 08	61 76	160 22	134 29	93 42
						-56 8%			-30 4%
								w/ Phase II NOx Credit	86 42
									-35 6%

*Phase II NOx Credit Calculated using MOBILE5b
7/31/99

VMT, VOC, CO and Nox Inventory and Forecast
Emissions by County by Vehicle Type

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

1999 Uncontrolled Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Bucks	LDGV	12,994,008	87.6%		28,074	87.4%	199,054	87.3%	23,677	81.6%
	LDGT1	504,912	3.4%		1,154	3.6%	10,426	4.6%	1,257	4.3%
	LDGT2	352,605	2.4%		902	2.8%	8,516	3.7%	920	3.2%
	HDGV	69,222	0.5%		276	0.9%	2,641	1.2%	378	1.3%
	LDDV	558,659	3.8%		280	0.9%	753	0.3%	840	2.9%
	LDDT	45,305	0.3%		30	0.1%	63	0.0%	84	0.3%
	HDDV	123,770	0.8%		200	0.6%	1,111	0.5%	1,670	5.8%
	MC	181,003	1.2%		1,213	3.8%	5,372	2.4%	188	0.6%
	Total	14,829,484		23.5	32,128		227,936		29,015	
				total tons:	35.42		251.25		31.98	

	kg	ton	pct.
Exhaust	17,140	18.89	53.3%
Evaporative	3,981	4.39	12.4%
Refueling	0	0.00	0.0%
Running Loss	9,821	10.83	30.6%
Resting Loss	1,186	1.31	3.7%

Chester	LDGV	11,007,230	86.6%		17,646	84.6%	125,016	84.6%	19,523	79.2%
	LDGT1	497,358	3.9%		924	4.4%	8,499	5.8%	1,231	5.0%
	LDGT2	347,266	2.7%		722	3.5%	7,019	4.7%	907	3.7%
	HDGV	66,968	0.5%		216	1.0%	2,116	1.4%	380	1.5%
	LDDV	474,094	3.7%		188	0.9%	507	0.3%	685	2.8%
	LDDT	45,846	0.4%		24	0.1%	53	0.0%	84	0.3%
	HDDV	121,683	1.0%		166	0.8%	918	0.6%	1,674	6.8%
	MC	152,529	1.2%		984	4.7%	3,650	2.5%	171	0.7%
	Total	12,712,974		31.6	20,870		147,778		24,654	
				total tons:	23.00		162.90		27.18	

	kg	ton	pct.
Exhaust	11,303	12.46	54.2%
Evaporative	3,232	3.56	15.5%
Refueling	0	0.00	0.0%
Running Loss	5,323	5.87	25.5%
Resting Loss	1,012	1.12	4.9%

VMT, VOC, CO, AND [redacted] INVENTORY AND FORECAST BY COUNT[redacted]Y VEHICLE TYPE
Philadelphia 5-County Area

1999 Uncontrolled Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Delaware	LDGV	8,951,690	87.7%		18,784	87.5%	127,044	87.8%	14,458	81.8%
	LDGT1	340,670	3.3%		760	3.5%	6,440	4.5%	748	4.2%
	LDGT2	237,531	2.3%		560	2.6%	4,890	3.4%	527	3.0%
	HDGV	45,981	0.5%		180	0.8%	1,592	1.1%	240	1.4%
	LDDV	384,722	3.8%		197	0.9%	514	0.4%	512	2.9%
	LDDT	31,586	0.3%		22	0.1%	44	0.0%	52	0.3%
	HDDV	84,440	0.8%		144	0.7%	766	0.5%	1,030	5.8%
	MC	124,927	1.2%		826	3.8%	3,351	2.3%	115	0.6%
	Total	10,201,547		22.7	21,473		144,642		17,683	
				total tons:	23.67		159.44		19.49	

	kg	ton	pct.
Exhaust	11,175	12.32	52.0%
Evaporative	2,600	2.87	12.1%
Refueling	0	0.00	0.0%
Running Loss	6,886	7.59	32.1%
Resting Loss	813	0.90	3.8%

Montgomery	LDGV	17,224,976	87.6%		32,250	86.3%	218,884	86.7%	28,653	81.2%
	LDGT1	667,411	3.4%		1,468	3.9%	12,548	5.0%	1,556	4.4%
	LDGT2	467,640	2.4%		1,103	3.0%	9,751	3.9%	1,124	3.2%
	HDGV	89,147	0.5%		328	0.9%	2,955	1.2%	477	1.3%
	LDDV	740,501	3.8%		341	0.9%	912	0.4%	1,012	2.9%
	LDDT	60,999	0.3%		40	0.1%	84	0.0%	108	0.3%
	HDDV	163,281	0.8%		269	0.7%	1,488	0.6%	2,135	6.0%
	MC	239,379	1.2%		1,567	4.2%	5,902	2.3%	240	0.7%
	Total	19,653,334		25.5	37,367		252,523		35,305	
				total tons:	41.19		278.36		38.92	

	kg	ton	pct.
Exhaust	19,618	21.62	52.5%
Evaporative	4,976	5.49	13.3%
Refueling	0	0.00	0.0%
Running Loss	11,205	12.35	30.0%
Resting Loss	1,568	1.73	4.2%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

1999 Uncontrolled Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Philadelphia	LDGV	15,136,525	87.2%		42,968	88.4%	305,768	88.4%	28,739	81.6%
	LDGT1	620,679	3.6%		1,770	3.6%	15,752	4.6%	1,596	4.5%
	LDGT2	437,089	2.5%		1,280	2.6%	11,648	3.4%	1,117	3.2%
	HDGV	84,353	0.5%		386	0.8%	3,536	1.0%	453	1.3%
	LDDV	651,183	3.8%		422	0.9%	1,077	0.3%	1,017	2.9%
	LDDT	57,983	0.3%		49	0.1%	97	0.0%	114	0.3%
	HDDV	154,830	0.9%		277	0.6%	1,526	0.4%	2,006	5.7%
	MC	209,722	1.2%		1,451	3.0%	6,499	1.9%	185	0.5%
	Total	17,352,364		19.9	48,603		345,902		35,228	
				total tons:	53.57		381.29		38.83	

	kg	ton	pct.
Exhaust	26,123	28.80	53.7%
Evaporative	5,102	5.62	10.5%
Refueling	0	0.00	0.0%
Running Loss	15,832	17.45	32.6%
Resting Loss	1,546	1.70	3.2%

Area Total

	LDGV	65,314,429	87.4%		139,722	87.1%	975,765	87.2%	115,051	81.1%
	LDGT1	2,631,030	3.5%		6,076	3.8%	53,665	4.8%	6,389	4.5%
	LDGT2	1,842,131	2.5%		4,567	2.8%	41,823	3.7%	4,596	3.2%
	HDGV	355,671	0.5%		1,386	0.9%	12,840	1.1%	1,928	1.4%
	LDDV	2,809,159	3.8%		1,428	0.9%	3,765	0.3%	4,066	2.9%
	LDDT	241,719	0.3%		164	0.1%	341	0.0%	441	0.3%
	HDDV	648,004	0.9%		1,056	0.7%	5,809	0.5%	8,516	6.0%
	MC	907,560	1.2%		6,042	3.8%	24,774	2.2%	899	0.6%
	Total:	74,749,703		23.9	160,441		1,118,781		141,885	
				Total Tons:	176.85		1,233.23		156.40	

	kg	tons	pct.
Exhaust	85,358	94.09	53.2%
Evaporative	19,892	21.93	12.4%
Refueling	0	0.00	0.0%
Running Loss	49,066	54.09	30.6%
Resting Loss	6,125	6.75	3.8%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

1999 Adjusted Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Bucks	LDGV	11,256,289	87.6%		22,266	86.9%	162,765	87.1%	20,721	81.5%
	LDGT1	439,011	3.4%		949	3.7%	8,853	4.7%	1,109	4.4%
	LDGT2	306,774	2.4%		742	2.9%	7,253	3.9%	813	3.2%
	HDGV	60,203	0.5%		225	0.9%	2,190	1.2%	333	1.3%
	LDDV	483,922	3.8%		230	0.9%	610	0.3%	729	2.9%
	LDDT	39,400	0.3%		25	0.1%	52	0.0%	74	0.3%
	HDDV	107,653	0.8%		166	0.6%	917	0.5%	1,467	5.8%
	MC	156,796	1.2%		1,029	4.0%	4,339	2.3%	167	0.7%
	Total	12,850,048		26.4	25,632		186,978		25,413	
				total tons:	28.25		206.11		28.01	

	kg	ton	pct.
Exhaust	13,961	15.39	54.5%
Evaporative	3,450	3.80	13.5%
Refueling	0	0.00	0.0%
Running Loss	7,193	7.93	28.1%
Resting Loss	1,028	1.13	4.0%

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Chester	LDGV	8,783,345	86.6%		13,545	84.2%	99,536	84.4%	15,964	79.1%
	LDGT1	398,456	3.9%		726	4.5%	6,903	5.9%	1,012	5.0%
	LDGT2	278,221	2.7%		568	3.5%	5,727	4.9%	746	3.7%
	HDGV	53,668	0.5%		168	1.0%	1,683	1.4%	308	1.5%
	LDDV	378,292	3.7%		144	0.9%	393	0.3%	562	2.8%
	LDDT	36,723	0.4%		19	0.1%	41	0.0%	69	0.3%
	HDDV	97,484	1.0%		129	0.8%	722	0.6%	1,378	6.8%
	MC	121,675	1.2%		784	4.9%	2,981	2.5%	141	0.7%
	Total	10,147,864		33.8	16,083		117,987		20,179	
				total tons:	17.73		130.06		22.24	

	kg	ton	pct.
Exhaust	8,864	9.77	55.1%
Evaporative	2,580	2.84	16.0%
Refueling	0	0.00	0.0%
Running Loss	3,831	4.22	23.8%
Resting Loss	808	0.89	5.0%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

1999 Adjusted Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Delaware	LDGV	7,298,370	88.2%		14,971	87.6%	105,889	87.9%	12,225	82.2%
	LDGT1	260,358	3.1%		588	3.4%	5,365	4.5%	611	4 1%
	LDGT2	181,359	2.2%		434	2.5%	4,093	3.4%	430	2.9%
	HDGV	34,920	0.4%		136	0.8%	1,268	1.1%	184	1.2%
	LDDV	313,605	3.8%		157	0.9%	415	0.3%	436	2.9%
	LDDT	24,222	0.3%		17	0.1%	35	0.0%	43	0.3%
	HDDV	64,385	0.8%		110	0.6%	598	0.5%	851	5 7%
	MC	101,825	1.2%		676	4.0%	2,863	2.4%	98	0.7%
	Total	8,279,044		23.7	17,089		120,526		14,879	
				total tons:	18.84		132.86		16.40	

	kg	ton	pct.
Exhaust	9,064	9.99	53.0%
Evaporative	2,109	2.33	12.3%
Refueling	0	0.00	0.0%
Running Loss	5,255	5.79	30.7%
Resting Loss	661	0.73	3.9%

Montgomery	LDGV	14,770,267	87.7%		26,890	86.2%	189,817	86.5%	25,433	81.1%
	LDGT1	566,593	3.4%		1,234	4.0%	11,144	5.1%	1,385	4.4%
	LDGT2	396,975	2.4%		928	3.0%	8,694	4.0%	1,001	3.2%
	HDGV	75,639	0.4%		271	0.9%	2,529	1.2%	410	1.3%
	LDDV	634,947	3.8%		285	0.9%	767	0.3%	901	2.9%
	LDDT	51,741	0.3%		33	0.1%	71	0.0%	96	0.3%
	HDDV	138,570	0.8%		224	0.7%	1,252	0.6%	1,902	6.1%
	MC	205,237	1.2%		1,348	4.3%	5,292	2.4%	215	0.7%
	Total	16,839,969		26.8	31,212		219,567		31,343	
				total tons:	34.41		242.03		34.55	

	kg	ton	pct.
Exhaust	16,681	18.39	53.4%
Evaporative	4,264	4.70	13.7%
Refueling	0	0.00	0.0%
Running Loss	8,924	9.84	28.6%
Resting Loss	1,344	1.48	4.3%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

1999 Adjusted Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Philadelphia	LDGV	14,388,104	87.3%		39,420	88.3%	284,506	88.4%	27,826	81.6%
	LDGT1	586,141	3.6%		1,637	3.7%	14,729	4.6%	1,556	4.6%
	LDGT2	412,431	2.5%		1,182	2.6%	10,879	3.4%	1,087	3.2%
	HDGV	79,590	0.5%		355	0.8%	3,303	1.0%	433	1.3%
	LDDV	618,960	3.8%		393	0.9%	997	0.3%	975	2.9%
	LDDT	54,756	0.3%		45	0.1%	90	0.0%	110	0.3%
	HDDV	146,110	0.9%		256	0.6%	1,416	0.4%	1,933	5.7%
	MC	199,372	1.2%		1,369	3.1%	6,005	1.9%	180	0.5%
	Total	16,485,464		20.7	44,657		321,924		34,100	
				total tons:	49.23		354.86		37.59	

	kg	ton	pct.
Exhaust	24,237	26.72	54.3%
Evaporative	4,847	5.34	10.9%
Refueling	0	0.00	0.0%
Running Loss	14,104	15.55	31.6%
Resting Loss	1,468	1.62	3.3%

Area Total

	LDGV	56,496,375	87.5%		117,092	86.9%	842,512	87.1%	102,170	81.1%
	LDGT1	2,250,559	3.5%		5,135	3.8%	46,994	4.9%	5,672	4.5%
	LDGT2	1,575,760	2.4%		3,853	2.9%	36,646	3.8%	4,077	3.2%
	HDGV	304,020	0.5%		1,155	0.9%	10,973	1.1%	1,668	1.3%
	LDDV	2,429,726	3.8%		1,209	0.9%	3,182	0.3%	3,604	2.9%
	LDDT	206,842	0.3%		138	0.1%	289	0.0%	391	0.3%
	HDDV	554,202	0.9%		885	0.7%	4,905	0.5%	7,531	6.0%
	MC	784,905	1.2%		5,206	3.9%	21,481	2.2%	801	0.6%
	Total:	64,602,389		25.2	134,674		966,981		125,914	
				Total Tons:	148.45		1,065.90		138.80	

	kg	tons	pct.
Exhaust	72,808	80.26	54.1%
Evaporative	17,250	19.01	12.8%
Refueling	0	0.00	0.0%
Running Loss	39,307	43.33	29.2%
Resting Loss	5,309	5.85	3.9%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

1999 Control Strategy

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Bucks	LDGV	12,994,008	87.6%		13,337	82.4%	89,536	84.3%	15,704	76.9%
	LDGT1	504,912	3.4%		537	3.3%	4,360	4.1%	817	4.0%
	LDGT2	352,605	2.4%		435	2.7%	3,622	3.4%	662	3.2%
	HDGV	69,222	0.5%		219	1.4%	2,145	2.0%	376	1.8%
	LDDV	558,659	3.8%		280	1.7%	753	0.7%	840	4.1%
	LDDT	45,305	0.3%		30	0.2%	63	0.1%	84	0.4%
	HDDV	123,770	0.8%		200	1.2%	1,111	1.0%	1,761	8.6%
	MC	181,003	1.2%		1,141	7.1%	4,604	4.3%	188	0.9%
	Total	14,829,484		23.5	16,177		106,195		20,432	
				total tons:	17.83		117.06		22.52	

	kg	ton	pct.
Exhaust	9,592	10.57	59.3%
Evaporative	2,090	2.30	12.9%
Refueling	0	0.00	0.0%
Running Loss	3,416	3.77	21.1%
Resting Loss	1,079	1.19	6.7%

Chester	LDGV	11,007,230	86.6%		8,652	79.3%	57,489	81.7%	13,004	74.1%
	LDGT1	497,358	3.9%		436	4.0%	3,576	5.1%	798	4.5%
	LDGT2	347,266	2.7%		356	3.3%	2,999	4.3%	656	3.7%
	HDGV	66,968	0.5%		170	1.6%	1,712	2.4%	377	2.2%
	LDDV	474,094	3.7%		188	1.7%	507	0.7%	685	3.9%
	LDDT	45,846	0.4%		24	0.2%	53	0.1%	84	0.5%
	HDDV	121,683	1.0%		166	1.5%	918	1.3%	1,765	10.1%
	MC	152,529	1.2%		922	8.4%	3,139	4.5%	170	1.0%
	Total	12,712,974		31.6	10,914		70,394		17,539	
				total tons:	12.03		77.60		19.33	

	kg	ton	pct.
Exhaust	6,440	7.10	59.0%
Evaporative	1,710	1.88	15.7%
Refueling	0	0.00	0.0%
Running Loss	1,846	2.03	16.9%
Resting Loss	918	1.01	8.4%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY AND VEHICLE TYPE
Philadelphia 5-County Area

1999 Control Strategy

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Delaware	LDGV	8,951,690	87.7%		8,853	82.3%	57,707	84.8%	9,457	76.7%
	LDGT1	340,670	3.3%		352	3.3%	2,715	4.0%	483	3.9%
	LDGT2	237,531	2.3%		269	2.5%	2,110	3.1%	379	3.1%
	HDGV	45,981	0.5%		143	1.3%	1,284	1.9%	238	1.9%
	LDDV	384,722	3.8%		197	1.8%	514	0.8%	512	4.2%
	LDDT	31,586	0.3%		22	0.2%	44	0.1%	52	0.4%
	HDDV	84,440	0.8%		144	1.3%	766	1.1%	1,086	8.8%
	MC	124,927	1.2%		777	7.2%	2,872	4.2%	115	0.9%
	Total	10,201,547		22.7	10,755		68,011		12,323	
				total tons:	11.86		74.97		13.58	

	kg	ton	pct.
Exhaust	6,236	6.87	58.0%
Evaporative	1,350	1.49	12.5%
Refueling	0	0.00	0.0%
Running Loss	2,431	2.68	22.6%
Resting Loss	739	0.81	6.9%

Montgomery	LDGV	17,224,976	87.6%		15,527	81.2%	100,892	83.9%	18,971	76.3%
	LDGT1	667,411	3.4%		686	3.6%	5,292	4.4%	1,008	4.1%
	LDGT2	467,640	2.4%		529	2.8%	4,169	3.5%	809	3.3%
	HDGV	89,147	0.5%		259	1.4%	2,369	2.0%	474	1.9%
	LDDV	740,501	3.8%		341	1.8%	912	0.8%	1,012	4.1%
	LDDT	60,999	0.3%		40	0.2%	84	0.1%	108	0.4%
	HDDV	163,281	0.8%		269	1.4%	1,487	1.2%	2,250	9.0%
	MC	239,379	1.2%		1,471	7.7%	5,062	4.2%	239	1.0%
	Total	19,653,334		25.5	19,123		120,267		24,872	
				total tons:	21.08		132.57		27.42	

	kg	ton	pct.
Exhaust	11,094	12.23	58.0%
Evaporative	2,627	2.90	13.7%
Refueling	0	0.00	0.0%
Running Loss	3,977	4.38	20.8%
Resting Loss	1,425	1.57	7.5%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

1999 Control Strategy

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct
Philadelphia	LDGV	15,136,525	87.2%		19,632	83.7%	129,008	85.2%	18,561	76.5%
	LDGT1	620,679	3.6%		809	3.4%	6,434	4.2%	1,036	4.3%
	LDGT2	437,089	2.5%		606	2.6%	4,885	3.2%	786	3.2%
	HDGV	84,353	0.5%		307	1.3%	2,870	1.9%	451	1.9%
	LDDV	651,183	3.8%		422	1.8%	1,077	0.7%	1,017	4.2%
	LDDT	57,983	0.3%		49	0.2%	97	0.1%	114	0.5%
	HDDV	154,830	0.9%		277	1.2%	1,526	1.0%	2,115	8.7%
	MC	209,722	1.2%		1,364	5.8%	5,559	3.7%	184	0.8%
	Total	17,352,364		19.9	23,465		151,457		24,265	
				total tons:	25.87		166.95		26 75	

	kg	ton	pct.
Exhaust	13,840	15.26	59.0%
Evaporative	2,601	2.87	11.1%
Refueling	0	0.00	0.0%
Running Loss	5,605	6.18	23.9%
Resting Loss	1,420	1.56	6.0%

Area Total

	LDGV	65,314,429	87.4%		66,002	82.1%	434,632	84.2%	75,698	76.1%
	LDGT1	2,631,030	3.5%		2,820	3.5%	22,377	4.3%	4,142	4.2%
	LDGT2	1,842,131	2.5%		2,194	2.7%	17,787	3.4%	3,293	3.3%
	HDGV	355,671	0.5%		1,097	1.4%	10,380	2.0%	1,917	1.9%
	LDDV	2,809,159	3.8%		1,428	1.8%	3,764	0.7%	4,066	4.1%
	LDDT	241,719	0.3%		164	0.2%	341	0.1%	441	0.4%
	HDDV	648,004	0.9%		1,056	1.3%	5,808	1.1%	8,979	9.0%
	MC	907,560	1.2%		5,674	7.1%	21,236	4.1%	896	0.9%
	Total:	74,749,703		23.9	80,435		516,325		99,431	
				Total Tons:	88.66		569.14		109.60	

	kg	tons	pct
Exhaust	47,202	52.03	58.7%
Evaporative	10,377	11.44	12.9%
Refueling	0	0.00	0.0%
Running Loss	17,275	19.04	21.5%
Resting Loss	5,581	6.15	6.9%

VMT, VOC, CO, AND N[redacted] INVENTORY AND FORECAST BY COUNT[redacted] VEHICLE TYPE

Philadelphia 5-County Area

2002 Uncontrolled Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Bucks	LDGV	13,459,797	87.6%		29,127	87.7%	196,862	87.8%	24,176	82.4%
	LDGT1	522,843	3.4%		1,169	3.5%	9,792	4.4%	1,294	4.4%
	LDGT2	365,137	2.4%		901	2.7%	7,890	3.5%	955	3.3%
	HDGV	71,682	0.5%		258	0.8%	2,079	0.9%	385	1.3%
	LDDV	578,677	3.8%		261	0.8%	749	0.3%	777	2.6%
	LDDT	46,912	0.3%		26	0.1%	61	0.0%	74	0.3%
	HDDV	128,164	0.8%		200	0.6%	1,143	0.5%	1,481	5.0%
	MC	187,511	1.2%		1,265	3.8%	5,685	2.5%	194	0.7%
	Total	15,360,723		22.7	33,209		224,261		29,335	
				total tons:	36.61		247.20		32.34	

	kg	ton	pct.
Exhaust	17,472	19.26	52.6%
Evaporative	3,792	4.18	11.4%
Refueling	0	0.00	0.0%
Running Loss	10,722	11.82	32.3%
Resting Loss	1,224	1.35	3.7%

Chester	LDGV	11,650,647	86.6%		18,488	84.9%	124,306	85.2%	20,249	80.1%
	LDGT1	526,004	3.9%		945	4.3%	7,945	5.4%	1,282	5.1%
	LDGT2	367,262	2.7%		729	3.3%	6,463	4.4%	949	3.8%
	HDGV	70,824	0.5%		206	0.9%	1,694	1.2%	394	1.6%
	LDDV	501,804	3.7%		181	0.8%	518	0.4%	653	2.6%
	LDDT	48,500	0.4%		22	0.1%	52	0.0%	76	0.3%
	HDDV	128,690	1.0%		170	0.8%	958	0.7%	1,507	6.0%
	MC	161,461	1.2%		1,044	4.8%	3,885	2.7%	179	0.7%
	Total	13,455,192		30.8	21,785		145,821		25,288	
				total tons:	24.01		160.74		27.88	

	kg	ton	pct.
Exhaust	11,682	12.88	53.6%
Evaporative	3,203	3.53	14.7%
Refueling	0	0.00	0.0%
Running Loss	5,831	6.43	26.8%
Resting Loss	1,069	1.18	4.9%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

2002 Uncontrolled Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Delaware	LDGV	9,270,674	87.7%		19,418	87.7%	128,097	88.2%	14,779	82.7%
	LDGT1	352,888	3.3%		775	3.5%	6,284	4.3%	771	4.3%
	LDGT2	246,078	2.3%		565	2.6%	4,699	3.2%	544	3.0%
	HDGV	47,631	0.5%		170	0.8%	1,268	0.9%	243	1.4%
	LDDV	398,432	3.8%		179	0.8%	507	0.3%	465	2.6%
	LDDT	32,717	0.3%		19	0.1%	43	0.0%	45	0.3%
	HDDV	87,468	0.8%		145	0.7%	789	0.5%	910	5.1%
	MC	129,383	1.2%		861	3.9%	3,544	2.4%	118	0.7%
	Total	10,565,271		22.2	22,132		145,231		17,875	
				total tons:	24.40		160.09		19.70	

	kg	ton	pct.
Exhaust	11,432	12.60	51.7%
Evaporative	2,503	2.76	11.3%
Refueling	0	0.00	0.0%
Running Loss	7,356	8.11	33.2%
Resting Loss	841	92.7%	3.8%

Montgomery	LDGV	17,785,693	87.6%		32,988	86.5%	216,448	87.1%	29,121	82.0%
	LDGT1	688,863	3.4%		1,483	3.9%	11,951	4.8%	1,591	4.5%
	LDGT2	482,729	2.4%		1,100	2.9%	9,162	3.7%	1,151	3.2%
	HDGV	91,999	0.5%		310	0.8%	2,370	1.0%	482	1.4%
	LDDV	764,605	3.8%		317	0.8%	901	0.4%	936	2.6%
	LDDT	62,960	0.3%		35	0.1%	80	0.0%	94	0.3%
	HDDV	168,525	0.8%		269	0.7%	1,515	0.6%	1,877	5.3%
	MC	247,177	1.2%		1,622	4.3%	6,129	2.5%	246	0.7%
	Total	20,292,551		25.1	38,123		248,556		35,498	
				total tons:	42.02		273.98		39.13	

	kg	ton	pct.
Exhaust	19,808	21.83	52.0%
Evaporative	4,856	5.35	12.7%
Refueling	0	0.00	0.0%
Running Loss	11,842	13.05	31.1%
Resting Loss	1,617	1.78	4.2%

VMT, VOC, CO, AND NOx INVENTORY AND FORECAST BY COUNTY AND VEHICLE TYPE
Philadelphia 5-County Area

2002 Uncontrolled Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Philadelphia	LDGV	15,310,967	87.2%		42,886	88.7%	294,400	88.8%	28,627	82.5%
	LDGT1	628,339	3.6%		1,727	3.6%	14,457	4.4%	1,619	4.7%
	LDGT2	442,412	2.5%		1,232	2.5%	10,566	3.2%	1,130	3.3%
	HDGV	85,397	0.5%		352	0.7%	2,727	0.8%	447	1.3%
	LDDV	658,688	3.8%		362	0.7%	1,006	0.3%	869	2.5%
	LDDT	58,700	0.3%		41	0.1%	89	0.0%	95	0.3%
	HDDV	156,741	0.9%		271	0.6%	1,522	0.5%	1,737	5.0%
	MC	212,119	1.2%		1,471	3.0%	6,629	2.0%	186	0.5%
	Total	17,553,363		19.7	48,341		331,396		34,710	
				total tons:	53.29		365.30		38.26	

	kg	ton	pct.
Exhaust	25,673	28.30	53.1%
Evaporative	4,926	5.43	10.2%
Refueling	0	0.00	0.0%
Running Loss	16,241	17.90	33.6%
Resting Loss	1,501	1.65	3.1%

Area Total

	LDGV	67,477,778	87.4%		142,907	87.4%	960,113	87.7%	116,951	82.0%
	LDGT1	2,718,937	3.5%		6,098	3.7%	50,429	4.6%	6,557	4.6%
	LDGT2	1,903,618	2.5%		4,527	2.8%	38,780	3.5%	4,728	3.3%
	HDGV	367,533	0.5%		1,296	0.8%	10,138	0.9%	1,950	1.4%
	LDDV	2,902,206	3.8%		1,301	0.8%	3,681	0.3%	3,699	2.6%
	LDDT	249,789	0.3%		143	0.1%	325	0.0%	385	0.3%
	HDDV	669,588	0.9%		1,056	0.6%	5,926	0.5%	7,512	5.3%
	MC	937,651	1.2%		6,263	3.8%	25,873	2.4%	922	0.6%
	Total:	77,227,100		23.5	163,591		1,095,265		142,705	
				Total Tons:	180.33		1,207.31		157.30	

	kg	tons	pct.
Exhaust	86,066	94.87	52.6%
Evaporative	19,280	21.25	11.8%
Refueling	0	0.00	0.0%
Running Loss	51,993	57.31	31.8%
Resting Loss	6,252	6.89	3.8%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

2002 Adjusted Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Bucks	LDGV	11,256,289	87.6%		21,655	87.0%	151,785	87.5%	20,456	82.3%
	LDGT1	439,011	3.4%		911	3.7%	7,883	4.5%	1,105	4.4%
	LDGT2	306,774	2.4%		702	2.8%	6,382	3.7%	817	3.3%
	HDGV	60,203	0.5%		200	0.8%	1,644	0.9%	327	1.3%
	LDDV	483,922	3.8%		205	0.8%	576	0.3%	650	2.6%
	LDDT	39,400	0.3%		21	0.1%	48	0.0%	63	0.3%
	HDDV	107,653	0.8%		159	0.6%	898	0.5%	1,259	5.1%
	MC	156,796	1.2%		1,029	4.1%	4,339	2.5%	167	0.7%
	Total	12,850,048		26.4	24,881		173,555		24,844	
				total tons:	27.43		191.31		27.39	

	kg	ton	pct.
Exhaust	13,497	14.88	54.2%
Evaporative	3,172	3.50	12.7%
Refueling	0	0.00	0.0%
Running Loss	7,189	7.92	28.9%
Resting Loss	1,024	1.13	4.1%

Chester	LDGV	8,783,345	86.6%		13,152	84.4%	91,991	84.9%	15,755	80.0%
	LDGT1	398,456	3.9%		694	4.5%	6,026	5.6%	1,004	5.1%
	LDGT2	278,221	2.7%		536	3.4%	4,929	4.6%	743	3.8%
	HDGV	53,668	0.5%		149	1.0%	1,271	1.2%	302	1.5%
	LDDV	378,292	3.7%		131	0.8%	374	0.3%	510	2.6%
	LDDT	36,723	0.4%		16	0.1%	38	0.0%	60	0.3%
	HDDV	97,484	1.0%		124	0.8%	707	0.7%	1,183	6.0%
	MC	121,675	1.2%		784	5.0%	2,981	2.8%	141	0.7%
	Total	10,147,864		33.8	15,587		108,316		19,699	
				total tons:	17.18		119.40		21.71	

	kg	ton	pct.
Exhaust	8,536	9.41	54.8%
Evaporative	2,416	2.66	15.5%
Refueling	0	0.00	0.0%
Running Loss	3,829	4.22	24.6%
Resting Loss	806	0.89	5.2%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

2002 Adjusted Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Delaware	LDGV	7,298,370	88.2%		14,655	87.8%	100,543	88.2%	12,088	83.0%
	LDGT1	260,358	3.1%		567	3.4%	4,890	4.3%	611	4.2%
	LDGT2	181,359	2.2%		414	2.5%	3,674	3.2%	431	3.0%
	HDGV	34,920	0.4%		122	0.7%	962	0.8%	182	1.2%
	LDDV	313,605	3.8%		136	0.8%	388	0.3%	383	2.6%
	LDDT	24,222	0.3%		14	0.1%	32	0.0%	37	0.3%
	HDDV	64,385	0.8%		106	0.6%	586	0.5%	730	5.0%
	MC	101,825	1.2%		676	4.1%	2,863	2.5%	98	0.7%
	Total	8,279,044		23.7	16,690		113,938		14,560	
				total tons:	18.40		125.59		16.05	

	kg	ton	pct.
Exhaust	8,813	9.71	52.8%
Evaporative	1,961	2.16	11.7%
Refueling	0	0.00	0.0%
Running Loss	5,256	5.79	31.5%
Resting Loss	660	0.73	4.0%

Montgomery	LDGV	14,770,267	87.7%		26,324	86.3%	179,285	86.9%	25,129	82.0%
	LDGT1	566,593	3.4%		1,194	3.9%	10,090	4.9%	1,382	4.5%
	LDGT2	396,975	2.4%		886	2.9%	7,763	3.8%	1,000	3.3%
	HDGV	75,639	0.4%		245	0.8%	1,956	0.9%	403	1.3%
	LDDV	634,947	3.8%		255	0.8%	727	0.4%	810	2.6%
	LDDT	51,741	0.3%		28	0.1%	65	0.0%	82	0.3%
	HDDV	138,570	0.8%		215	0.7%	1,227	0.6%	1,632	5.3%
	MC	205,237	1.2%		1,348	4.4%	5,292	2.6%	215	0.7%
	Total	16,839,969		26.8	30,494		206,405		30,654	
				total tons:	33.61		227.52		33.79	

	kg	ton	pct.
Exhaust	16,200	17.86	53.1%
Evaporative	4,030	4.44	13.2%
Refueling	0	0.00	0.0%
Running Loss	8,922	9.83	29.3%
Resting Loss	1,342	1.48	4.4%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

2002 Adjusted Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Philadelphia	LDGV	14,388,104	87.3%		38,581	88.6%	268,463	88.8%	27,404	82.5%
	LDGT1	586,141	3.6%		1,565	3.6%	13,227	4.4%	1,563	4.7%
	LDGT2	412,431	2.5%		1,116	2.6%	9,664	3.2%	1,089	3.3%
	HDGV	79,590	0.5%		317	0.7%	2,504	0.8%	422	1.3%
	LDDV	618,960	3.8%		331	0.8%	913	0.3%	825	2.5%
	LDDT	54,756	0.3%		37	0.1%	81	0.0%	91	0.3%
	HDDV	146,110	0.9%		245	0.6%	1,386	0.5%	1,659	5.0%
	MC	199,372	1.2%		1,369	3.1%	6,005	2.0%	180	0.5%
	Total	16,485,464		20.7	43,561		302,244		33,233	
				total tons:	48.02		333.16		36.63	

	kg	ton	pct.
Exhaust	23,412	25.81	53.7%
Evaporative	4,626	5.10	10.6%
Refueling	0	0.00	0.0%
Running Loss	14,113	15.56	32.4%
Resting Loss	1,410	1.55	3.2%

Area Total

	LDGV	56,496,375	87.5%		114,366	87.2%	792,067	87.6%	100,832	82.0%
	LDGT1	2,250,559	3.5%		4,931	3.8%	42,117	4.7%	5,665	4.6%
	LDGT2	1,575,760	2.4%		3,654	2.8%	32,412	3.6%	4,081	3.3%
	HDGV	304,020	0.5%		1,033	0.8%	8,336	0.9%	1,637	1.3%
	LDDV	2,429,726	3.8%		1,059	0.8%	2,977	0.3%	3,179	2.6%
	LDDT	206,842	0.3%		116	0.1%	264	0.0%	332	0.3%
	HDDV	554,202	0.9%		848	0.6%	4,804	0.5%	6,462	5.3%
	MC	784,905	1.2%		5,206	4.0%	21,481	2.4%	801	0.7%
	Total:	64,602,389		25.2	131,213		904,458		122,989	
				Total Tons:	144.64		996.98		135.57	

	kg	tons	pct.
Exhaust	70,457	77.66	53.7%
Evaporative	16,205	17.86	12.3%
Refueling	0	0.00	0.0%
Running Loss	39,310	43.33	30.0%
Resting Loss	5,242	5.78	4.0%

VMT, VOC, CO, [redacted] NOX INVENTORY AND FORECAST BY COUNT[redacted]Y VEHICLE TYPE
Philadelphia 5-County Area

2002 Control Strategy

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Bucks	LDGV	13,459,797	87.6%		10,220	80.0%	84,795	84.7%	14,406	77.1%
	LDGT1	522,843	3.4%		423	3.3%	3,798	3.8%	730	3.9%
	LDGT2	365,137	2.4%		337	2.6%	3,145	3.1%	616	3.3%
	HDGV	71,682	0.5%		170	1.3%	1,606	1.6%	364	1.9%
	LDDV	578,677	3.8%		261	2.0%	749	0.7%	776	4.2%
	LDDT	46,912	0.3%		26	0.2%	61	0.1%	74	0.4%
	HDDV	128,164	0.8%		200	1.6%	1,142	1.1%	1,522	8.1%
	MC	187,511	1.2%		1,136	8.9%	4,871	4.9%	193	1.0%
	Total	15,360,723		22.7	12,774		100,168		18,681	
				total tons:	14.08		110.42		20.59	
								w/ Phase II RFG NOx Credit	19 21	

	kg	ton	pct.
Exhaust	8,272	9.12	64.8%
Evaporative	1,621	1.79	12.7%
Refueling	0	0.00	0.0%
Running Loss	2,000	2.20	15.7%
Resting Loss	881	0.97	6.9%

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Chester	LDGV	11,650,647	86.6%		6,780	76.6%	54,690	82.1%	12,027	74.3%
	LDGT1	526,004	3.9%		350	3.9%	3,114	4.7%	721	4.5%
	LDGT2	367,262	2.7%		280	3.2%	2,611	3.9%	617	3.8%
	HDGV	70,824	0.5%		134	1.5%	1,304	2.0%	372	2.3%
	LDDV	501,804	3.7%		181	2.1%	518	0.8%	653	4.0%
	LDDT	48,500	0.4%		22	0.3%	52	0.1%	76	0.5%
	HDDV	128,690	1.0%		170	1.9%	957	1.4%	1,549	9.6%
	MC	161,461	1.2%		933	10.5%	3,338	5.0%	178	1.1%
	Total	13,455,192		30.8	8,850		66,585		16,193	
				total tons:	9.76		73.40		17.85	
								w/ Phase II RFG NOx Credit	16.63	

	kg	ton	pct.
Exhaust	5,598	6.17	63.3%
Evaporative	1,401	1.54	15.8%
Refueling	0	0.00	0.0%
Running Loss	1,103	1.22	12.5%
Resting Loss	748	0.82	8.5%

Phase II RFG NOx Credit calculated using MOBILE5b.

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

2002 Control Strategy

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Delaware	LDGV	9,270,674	87.7%		6,744	79.7%	55,170	85.0%	8,664	77.1%
	LDGT1	352,888	3.3%		279	3.3%	2,442	3.8%	431	3.8%
	LDGT2	246,078	2.3%		212	2.5%	1,917	3.0%	353	3.1%
	HDGV	47,631	0.5%		111	1.3%	972	1.5%	229	2.0%
	LDDV	398,432	3.8%		179	2.1%	507	0.8%	465	4.1%
	LDDT	32,717	0.3%		19	0.2%	43	0.1%	45	0.4%
	HDDV	87,468	0.8%		145	1.7%	788	1.2%	935	8.3%
	MC	129,383	1.2%		772	9.1%	3,036	4.7%	117	1.0%
	Total	10,565,271		22.2	8,462		64,874		11,241	
				total tons:	9.33		71.51		12.39	
							w/ Phase II RFG NOx Credit		11.51	

	kg	ton	pct.
Exhaust	5,383	5.93	63.6%
Evaporative	1,084	1.19	12.8%
Refueling	0	0.00	0.0%
Running Loss	1,408	1.55	16.6%
Resting Loss	588	0.65	6.9%

Montgomery	LDGV	17,785,693	87.6%		11,700	78.4%	95,053	84.1%	17,246	76.5%
	LDGT1	688,863	3.4%		536	3.6%	4,659	4.1%	895	4.0%
	LDGT2	482,729	2.4%		411	2.8%	3,702	3.3%	747	3.3%
	HDGV	91,999	0.5%		202	1.4%	1,805	1.6%	454	2.0%
	LDDV	764,605	3.8%		317	2.1%	901	0.8%	936	4.2%
	LDDT	62,960	0.3%		35	0.2%	80	0.1%	94	0.4%
	HDDV	168,525	0.8%		269	1.8%	1,514	1.3%	1,929	8.6%
	MC	247,177	1.2%		1,453	9.7%	5,255	4.7%	245	1.1%
	Total	20,292,551		25.1	14,923		112,970		22,546	
				total tons:	16.45		124.53		24.85	
							w/ Phase II RFG NOx Credit		23.12	

	kg	ton	pct.
Exhaust	9,440	10.41	63.3%
Evaporative	2,084	2.30	14.0%
Refueling	0	0.00	0.0%
Running Loss	2,269	2.50	15.2%
Resting Loss	1,130	1.25	7.6%

Phase II RFG NOx Credit calculated using MOBILE5b.

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

2002 Control Strategy

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Philadelphia	LDGV	15,310,967	87.2%		14,757	81.7%	118,837	85.6%	16,934	77.2%
	LDGT1	628,339	3.6%		620	3.4%	5,422	3.9%	915	4.2%
	LDGT2	442,412	2.5%		453	2.5%	4,130	3.0%	721	3.3%
	HDGV	85,397	0.5%		234	1.3%	2,111	1.5%	428	1.9%
	LDDV	658,688	3.8%		362	2.0%	1,006	0.7%	869	4.0%
	LDDT	58,700	0.3%		41	0.2%	89	0.1%	95	0.4%
	HDDV	156,741	0.9%		271	1.5%	1,522	1.1%	1,785	8.1%
	MC	212,119	1.2%		1,322	7.3%	5,671	4.1%	185	0.8%
	Total	17,553,363		19.7	18,059		138,787		21,932	
				total tons:	19.91		152.99		24.18	
								w/ Phase II RFG NOx Credit	22.66	

	kg	ton	pct.
Exhaust	11,596	12.78	64.2%
Evaporative	2,013	2.22	11.1%
Refueling	0	0.00	0.0%
Running Loss	3,250	3.58	18.0%
Resting Loss	1,200	1.32	6.6%

Area Total

	LDGV	67,477,778	87.4%		50,201	79.6%	408,544	84.5%	69,277	76.5%
	LDGT1	2,718,937	3.5%		2,208	3.5%	19,436	4.0%	3,693	4.1%
	LDGT2	1,903,618	2.5%		1,693	2.7%	15,506	3.2%	3,054	3.4%
	HDGV	367,533	0.5%		850	1.3%	7,800	1.6%	1,846	2.0%
	LDDV	2,902,206	3.8%		1,301	2.1%	3,681	0.8%	3,699	4.1%
	LDDT	249,789	0.3%		143	0.2%	325	0.1%	385	0.4%
	HDDV	669,588	0.9%		1,055	1.7%	5,924	1.2%	7,720	8.5%
	MC	937,651	1.2%		5,616	8.9%	22,170	4.6%	920	1.0%
	Total:	77,227,100		23.5	63,068		483,385		90,593	
				Total Tons:	69.52		532.84		99.86	
								w/ Phase II RFG NOx Credit	93.13	

	kg	tons	pct.
Exhaust	40,289	44.41	63.9%
Evaporative	8,202	9.04	13.0%
Refueling	0	0.00	0.0%
Running Loss	10,030	11.06	15.9%
Resting Loss	4,547	5.01	7.2%

Phase II RFG NOx Credit calculated using MOBILE5b.

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

2005 Uncontrolled Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Bucks	LDGV	13,925,924	87.6%		30,672	87.9%	201,803	88.1%	24,885	82.9%
	LDGT1	540,791	3.4%		1,216	3.5%	9,736	4.3%	1,321	4.4%
	LDGT2	377,676	2.4%		935	2.7%	7,755	3.4%	983	3.3%
	HDGV	74,142	0.5%		252	0.7%	1,755	0.8%	390	1.3%
	LDDV	598,722	3.8%		256	0.7%	769	0.3%	773	2.6%
	LDDT	48,523	0.3%		26	0.1%	62	0.0%	73	0.2%
	HDDV	132,568	0.8%		205	0.6%	1,185	0.5%	1,395	4.6%
	MC	194,007	1.2%		1,318	3.8%	6,006	2.6%	199	0.7%
	Total	15,892,353		22.0	34,880		229,071		30,019	
				total tons:	38.45		252.51		33.09	

	kg	ton	pct.
Exhaust	17,950	19.79	51.5%
Evaporative	3,908	4.31	11.2%
Refueling	0	0.00	0.0%
Running Loss	11,757	12.96	33.7%
Resting Loss	1,265	1.39	3.6%

Chester	LDGV	12,300,302	86.6%		19,810	85.2%	128,969	85.7%	21,174	80.6%
	LDGT1	554,673	3.9%		992	4.3%	7,925	5.3%	1,328	5.1%
	LDGT2	387,487	2.7%		762	3.3%	6,388	4.2%	990	3.8%
	HDGV	74,724	0.5%		205	0.9%	1,473	1.0%	407	1.5%
	LDDV	529,766	3.7%		185	0.8%	542	0.4%	664	2.5%
	LDDT	51,166	0.4%		23	0.1%	54	0.0%	77	0.3%
	HDDV	135,780	1.0%		177	0.8%	1,007	0.7%	1,442	5.5%
	MC	170,462	1.2%		1,106	4.8%	4,136	2.7%	187	0.7%
	Total	14,204,360		29.9	23,259		150,493		26,267	
				total tons:	25.64		165.89		28.95	

	kg	ton	pct.
Exhaust	12,249	13.50	52.7%
Evaporative	3,375	3.72	14.5%
Refueling	0	0.00	0.0%
Running Loss	6,507	7.17	28.0%
Resting Loss	1,128	1.24	4.8%

VMT, VOC, CO, AND [redacted]X INVENTORY AND FORECAST BY COUN[redacted]BY VEHICLE TYPE
Philadelphia 5-County Area

2005 Uncontrolled Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Delaware	LDGV	9,589,527	87.7%		20,435	87.9%	132,983	88.4%	15,213	83.1%
	LDGT1	365,103	3.3%		810	3.5%	6,426	4.3%	791	4.3%
	LDGT2	254,600	2.3%		589	2.5%	4,806	3.2%	563	3.1%
	HDGV	49,281	0.5%		167	0.7%	1,095	0.7%	245	1.3%
	LDDV	412,138	3.8%		180	0.8%	525	0.3%	465	2.5%
	LDDT	33,853	0.3%		19	0.1%	44	0.0%	45	0.2%
	HDDV	90,497	0.8%		150	0.6%	822	0.5%	856	4.7%
	MC	133,828	1.2%		896	3.9%	3,759	2.5%	121	0.7%
	Total	10,928,827		21.6	23,245		150,460		18,299	
				total tons:	25.62		165.85		20.17	

	kg	ton	pct.
Exhaust	11,836	13.05	50.9%
Evaporative	2,662	2.93	11.5%
Refueling	0	0.00	0.0%
Running Loss	7,877	8.68	33.9%
Resting Loss	870	0.96	3.7%

Montgomery	LDGV	18,347,033	87.6%		34,239	86.7%	220,729	87.3%	29,831	82.5%
	LDGT1	710,307	3.4%		1,523	3.9%	11,898	4.7%	1,613	4.5%
	LDGT2	497,695	2.4%		1,132	2.9%	9,131	3.6%	1,175	3.3%
	HDGV	94,861	0.5%		304	0.8%	2,066	0.8%	487	1.3%
	LDDV	788,728	3.8%		316	0.8%	922	0.4%	934	2.6%
	LDDT	64,910	0.3%		35	0.1%	82	0.0%	92	0.3%
	HDDV	173,773	0.8%		274	0.7%	1,559	0.6%	1,755	4.9%
	MC	254,971	1.2%		1,677	4.2%	6,380	2.5%	251	0.7%
	Total	20,932,278		24.7	39,500		252,766		36,139	
				total tons:	43.54		278.62		39.84	

	kg	ton	pct.
Exhaust	20,307	22.38	51.4%
Evaporative	4,961	5.47	12.6%
Refueling	0	0.00	0.0%
Running Loss	12,564	13.85	31.8%
Resting Loss	1,668	1.84	4.2%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

2005 Uncontrolled Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Philadelphia	LDGV	15,485,387	87.2%		43,272	88.8%	293,761	89.1%	28,713	82.9%
	LDGT1	636,001	3.6%		1,728	3.5%	13,973	4.2%	1,625	4.7%
	LDGT2	447,874	2.5%		1,241	2.5%	10,381	3.1%	1,150	3.3%
	HDGV	86,440	0.5%		326	0.7%	2,170	0.7%	443	1.3%
	LDDV	666,201	3.8%		339	0.7%	986	0.3%	820	2.4%
	LDDT	59,409	0.3%		38	0.1%	86	0.0%	88	0.3%
	HDDV	158,652	0.9%		270	0.6%	1,532	0.5%	1,601	4.6%
	MC	214,544	1.2%		1,491	3.1%	6,755	2.0%	187	0.5%
	Total	17,754,508		19.6	48,705		329,646		34,626	
				total tons:	53.69		363.37		38.17	

	kg	ton	pct.
Exhaust	25,817	28.46	53.0%
Evaporative	4,866	5.36	10.0%
Refueling	0	0.00	0.0%
Running Loss	16,605	18.30	34.1%
Resting Loss	1,417	1.56	2.9%

Area Total

	LDGV	69,648,173	87.4%		148,428	87.5%	978,245	87.9%	119,816	82.4%
	LDGT1	2,806,875	3.5%		6,268	3.7%	49,959	4.5%	6,677	4.6%
	LDGT2	1,965,332	2.5%		4,659	2.7%	38,462	3.5%	4,862	3.3%
	HDGV	379,448	0.5%		1,254	0.7%	8,558	0.8%	1,972	1.4%
	LDDV	2,995,555	3.8%		1,275	0.8%	3,743	0.3%	3,657	2.5%
	LDDT	257,861	0.3%		141	0.1%	329	0.0%	374	0.3%
	HDDV	691,270	0.9%		1,077	0.6%	6,105	0.5%	7,049	4.8%
	MC	967,812	1.2%		6,488	3.8%	27,035	2.4%	945	0.6%
	Total:	79,712,326		23.0	169,588		1,112,436		145,351	
				Total Tons:	186.94		1,226.24		160.22	

	kg	tons	pct.
Exhaust	88,159	97.18	52.0%
Evaporative	19,772	21.79	11.7%
Refueling	0	0.00	0.0%
Running Loss	55,310	60.97	32.6%
Resting Loss	6,348	7.00	3.7%

VMT, VOC, CO, AND [redacted] INVENTORY AND FORECAST BY COUN[redacted] BY VEHICLE TYPE
Philadelphia 5-County Area

2005 Adjusted Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Bucks	LDGV	11,256,289	87.6%		21,364	87.1%	147,320	87.7%	20,401	82.8%
	LDGT1	439,011	3.4%		898	3.7%	7,457	4.4%	1,096	4.4%
	LDGT2	306,774	2.4%		688	2.8%	5,963	3.6%	816	3.3%
	HDGV	60,203	0.5%		184	0.8%	1,326	0.8%	321	1.3%
	LDDV	483,922	3.8%		192	0.8%	561	0.3%	627	2.5%
	LDDT	39,400	0.3%		20	0.1%	47	0.0%	60	0.2%
	HDDV	107,653	0.8%		156	0.6%	888	0.5%	1,150	4.7%
	MC	156,796	1.2%		1,029	4.2%	4,339	2.6%	167	0.7%
	Total	12,850,048		26.4	24,531		167,901		24,636	
				total tons:	27.04		185.08		27.16	

	kg	ton	pct.
Exhaust	13,161	14.51	53.7%
Evaporative	3,160	3.48	12.9%
Refueling	0	0.00	0.0%
Running Loss	7,188	7.92	29.3%
Resting Loss	1,022	1.13	4.2%

Chester	LDGV	8,783,345	86.6%		13,047	84.5%	89,121	85.3%	15,732	80.5%
	LDGT1	398,456	3.9%		683	4.4%	5,640	5.4%	994	5.1%
	LDGT2	278,221	2.7%		524	3.4%	4,564	4.4%	742	3.8%
	HDGV	53,668	0.5%		139	0.9%	1,042	1.0%	297	1.5%
	LDDV	378,292	3.7%		124	0.8%	366	0.4%	495	2.5%
	LDDT	36,723	0.4%		16	0.1%	38	0.0%	57	0.3%
	HDDV	97,484	1.0%		121	0.8%	699	0.7%	1,080	5.5%
	MC	121,675	1.2%		784	5.1%	2,981	2.9%	141	0.7%
	Total	10,147,864		33.8	15,438		104,453		19,538	
				total tons:	17.02		115.14		21.54	

	kg	ton	pct.
Exhaust	8,394	9.25	54.4%
Evaporative	2,411	2.66	15.6%
Refueling	0	0.00	0.0%
Running Loss	3,828	4.22	24.8%
Resting Loss	806	0.89	5.2%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

2005 Adjusted Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Delaware	LDGV	7,298,370	88.2%		14,554	87.9%	98,343	88.4%	12,050	83.5%
	LDGT1	260,358	3.1%		562	3.4%	4,689	4.2%	607	4.2%
	LDGT2	181,359	2.2%		408	2.5%	3,521	3.2%	432	3.0%
	HDGV	34,920	0.4%		113	0.7%	790	0.7%	178	1.2%
	LDDV	313,605	3.8%		130	0.8%	381	0.3%	371	2.6%
	LDDT	24,222	0.3%		13	0.1%	31	0.0%	35	0.2%
	HDDV	64,385	0.8%		103	0.6%	579	0.5%	667	4.6%
	MC	101,825	1.2%		676	4.1%	2,863	2.6%	98	0.7%
	Total	8,279,044		23.7	16,560		111,196		14,438	
				total tons:	18.25		122.57		15.91	

	kg	ton	pct.
Exhaust	8,626	9.51	52.1%
Evaporative	2,017	2.22	12.2%
Refueling	0	0.00	0.0%
Running Loss	5,257	5.79	31.7%
Resting Loss	660	0.73	4.0%

Montgomery	LDGV	14,770,267	87.7%		26,083	86.4%	175,077	87.1%	25,083	82.4%
	LDGT1	566,593	3.4%		1,175	3.9%	9,606	4.8%	1,371	4.5%
	LDGT2	396,975	2.4%		873	2.9%	7,394	3.7%	999	3.3%
	HDGV	75,639	0.4%		231	0.8%	1,643	0.8%	397	1.3%
	LDDV	634,947	3.8%		243	0.8%	713	0.4%	788	2.6%
	LDDT	51,741	0.3%		27	0.1%	64	0.0%	79	0.3%
	HDDV	138,570	0.8%		210	0.7%	1,213	0.6%	1,491	4.9%
	MC	205,237	1.2%		1,348	4.5%	5,292	2.6%	215	0.7%
	Total	16,839,969		26.8	30,189		201,003		30,423	
				total tons:	33.28		221.57		33.53	

	kg	ton	pct.
Exhaust	15,935	17.57	52.8%
Evaporative	3,991	4.40	13.2%
Refueling	0	0.00	0.0%
Running Loss	8,920	9.83	29.5%
Resting Loss	1,342	1.48	4.4%

VMT, VOC, CO, AND N[redacted] INVENTORY AND FORECAST BY COUNT[redacted]Y VEHICLE TYPE
Philadelphia 5-County Area

2005 Adjusted Baseline

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Philadelphia	LDGV	14,388,104	87.3%		38,204	88.7%	262,736	89.1%	27,180	82.9%
	LDGT1	586,141	3.6%		1,538	3.6%	12,517	4.2%	1,550	4.7%
	LDGT2	412,431	2.5%		1,103	2.6%	9,299	3.2%	1,097	3.3%
	HDGV	79,590	0.5%		289	0.7%	1,962	0.7%	415	1.3%
	LDDV	618,960	3.8%		303	0.7%	880	0.3%	769	2.3%
	LDDT	54,756	0.3%		34	0.1%	77	0.0%	83	0.3%
	HDDV	146,110	0.9%		240	0.6%	1,371	0.5%	1,515	4.6%
	MC	199,372	1.2%		1,369	3.2%	6,005	2.0%	180	0.5%
	Total	16,485,464		20.7	43,080		294,847		32,789	
				total tons:	47.49		325.01		36.14	

	kg	ton	pct.
Exhaust	23,135	25.50	53.7%
Evaporative	4,518	4.98	10.5%
Refueling	0	0.00	0.0%
Running Loss	14,111	15.55	32.8%
Resting Loss	1,316	1.45	3.1%

Area Total

	LDGV	56,496,375	87.5%		113,251	87.3%	772,597	87.9%	100,446	82.5%
	LDGT1	2,250,559	3.5%		4,855	3.7%	39,910	4.5%	5,618	4.6%
	LDGT2	1,575,760	2.4%		3,596	2.8%	30,742	3.5%	4,085	3.4%
	HDGV	304,020	0.5%		956	0.7%	6,762	0.8%	1,609	1.3%
	LDDV	2,429,726	3.8%		992	0.8%	2,901	0.3%	3,050	2.5%
	LDDT	206,842	0.3%		109	0.1%	257	0.0%	314	0.3%
	HDDV	554,202	0.9%		831	0.6%	4,750	0.5%	5,902	4.8%
	MC	784,905	1.2%		5,206	4.0%	21,481	2.4%	801	0.7%
	Total:	64,602,389		25.2	129,797		879,400		121,824	
				Total Tons:	143.08		969.36		134.29	

	kg	tons	pct.
Exhaust	69,251	76.33	53.4%
Evaporative	16,097	17.74	12.4%
Refueling	0	0.00	0.0%
Running Loss	39,304	43.32	30.3%
Resting Loss	5,146	5.67	4.0%

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

2005 Control Strategy

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Bucks	LDGV	13,925,924	87.6%		8,864	77.9%	80,016	84.3%	13,555	77.3%
	LDGT1	540,791	3.4%		376	3.3%	3,452	3.6%	682	3.9%
	LDGT2	377,676	2.4%		307	2.7%	2,936	3.1%	593	3.4%
	HDGV	74,142	0.5%		153	1.3%	1,301	1.4%	349	2.0%
	LDDV	598,722	3.8%		256	2.3%	769	0.8%	773	4.4%
	LDDT	48,523	0.3%		26	0.2%	62	0.1%	73	0.4%
	HDDV	132,568	0.8%		205	1.8%	1,184	1.2%	1,301	7 4%
	MC	194,007	1.2%		1,183	10.4%	5,144	5.4%	199	1.1%
	Total	15,892,353		22.0	11,371		94,864		17,525	
				total tons:	12.53		104.57		19.32	
							w/ Phase II RFG NOx Credit		17.88	

	kg	ton	pct.
Exhaust	7,744	8.54	68.1%
Evaporative	1,416	1.56	12.5%
Refueling	0	0.00	0.0%
Running Loss	1,533	1.69	13.5%
Resting Loss	677	0.75	6.0%

Chester	LDGV	12,300,302	86.6%		5,951	74.2%	52,009	81.8%	11,464	74 5%
	LDGT1	554,673	3.9%		313	3.9%	2,838	4.5%	683	4.4%
	LDGT2	387,487	2.7%		258	3.2%	2,455	3.9%	602	3.9%
	HDGV	74,724	0.5%		123	1.5%	1,091	1.7%	364	2.4%
	LDDV	529,766	3.7%		185	2.3%	542	0.9%	664	4.3%
	LDDT	51,166	0.4%		23	0.3%	54	0.1%	77	0.5%
	HDDV	135,780	1.0%		177	2.2%	1,006	1.6%	1,345	8.7%
	MC	170,462	1.2%		989	12.3%	3,549	5.6%	186	1.2%
	Total	14,204,360		29.9	8,017		63,544		15,384	
				total tons:	8.84		70.04		16.96	
							w/ Phase II RFG NOx Credit		15.71	

	kg	ton	pct.
Exhaust	5,339	5.89	66.6%
Evaporative	1,246	1.37	15.5%
Refueling	0	0.00	0.0%
Running Loss	859	0.95	10.7%
Resting Loss	573	0.63	7.1%

Phase II RFG NOx Credit calculated using MOBILE5b.

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY AND VEHICLE TYPE
Philadelphia 5-County Area

2005 Control Strategy

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Delaware	LDGV	9,589,527	87.7%		5,896	77.6%	52,913	84.7%	8,188	77.4%
	LDGT1	365,103	3.3%		249	3.3%	2,281	3.7%	405	3.8%
	LDGT2	254,600	2.3%		196	2.6%	1,872	3.0%	343	3.2%
	HDGV	49,281	0.5%		102	1.3%	807	1.3%	219	2.1%
	LDDV	412,138	3.8%		180	2.4%	525	0.8%	465	4.4%
	LDDT	33,853	0.3%		19	0.3%	44	0.1%	45	0.4%
	HDDV	90,497	0.8%		150	2.0%	822	1.3%	799	7.5%
	MC	133,828	1.2%		804	10.6%	3,218	5.1%	121	1.1%
	Total	10,928,827		21.6	7,596		62,481		10,584	
				total tons:	8.37		68.87		11.67	
							w/ Phase II RFG NOx Credit		10.77	

	kg	ton	pct.
Exhaust	5,094	5.62	67.1%
Evaporative	956	1.05	12.6%
Refueling	0	0.00	0.0%
Running Loss	1,081	1.19	14.2%
Resting Loss	465	0.51	6.1%

Montgomery	LDGV	18,347,033	87.6%		10,008	76.0%	88,951	83.7%	16,106	76.7%
	LDGT1	710,307	3.4%		470	3.6%	4,236	4.0%	828	3.9%
	LDGT2	497,695	2.4%		376	2.9%	3,532	3.3%	716	3.4%
	HDGV	94,861	0.5%		183	1.4%	1,518	1.4%	433	2.1%
	LDDV	788,728	3.8%		316	2.4%	922	0.9%	934	4.4%
	LDDT	64,910	0.3%		35	0.3%	82	0.1%	92	0.4%
	HDDV	173,773	0.8%		274	2.1%	1,557	1.5%	1,638	7.8%
	MC	254,971	1.2%		1,503	11.4%	5,467	5.1%	250	1.2%
	Total	20,932,278		24.7	13,164		106,265		20,998	
				total tons:	14.51		117.14		23.15	
							w/ Phase II RFG NOx Credit		21.36	

	kg	ton	pct.
Exhaust	8,795	9.69	66.8%
Evaporative	1,836	2.02	13.9%
Refueling	0	0.00	0.0%
Running Loss	1,681	1.85	12.8%
Resting Loss	852	0.94	6.5%

Phase II RFG NOx Credit calculated using MOBILE5b.

VMT, VOC, CO, AND NOX INVENTORY AND FORECAST BY COUNTY BY VEHICLE TYPE
Philadelphia 5-County Area

2005 Control Strategy

County		VMT Miles	VMT Pct.	Speed (mph)	VOC Kilograms	VOC Pct.	CO Kilograms	CO Pct.	NOx Kilograms	NOx Pct.
Philadelphia	LDGV	15,485,387	87.2%		12,750	80.3%	111,289	85.7%	15,741	77.7%
	LDGT1	636,001	3.6%		536	3.4%	4,800	3.7%	842	4.2%
	LDGT2	447,874	2.5%		404	2.5%	3,829	2.9%	684	3.4%
	HDGV	86,440	0.5%		202	1.3%	1,608	1.2%	402	2 0%
	LDDV	666,201	3.8%		339	2.1%	986	0.8%	820	4.0%
	LDDT	59,409	0.3%		38	0.2%	86	0.1%	88	0.4%
	HDDV	158,652	0.9%		270	1.7%	1,530	1.2%	1,493	7 4%
	MC	214,544	1.2%		1,339	8.4%	5,777	4.4%	186	0.9%
	Total	17,754,508		19.6	15,879		129,906		20,256	
				total tons:	17.50		143.20		22.33	
							w/ Phase II RFG NOx Credit		20.70	

	kg	ton	pct.
Exhaust	10,830	11.94	68.2%
Evaporative	1,721	1.90	10.8%
Refueling	0	0.00	0.0%
Running Loss	2,440	2.69	15.4%
Resting Loss	888	0.98	5.6%

Area Total

	LDGV	69,648,173	87.4%		43,468	77.6%	385,178	84.3%	65,053	76.8%
	LDGT1	2,806,875	3.5%		1,944	3.5%	17,607	3.9%	3,441	4.1%
	LDGT2	1,965,332	2.5%		1,541	2.8%	14,623	3.2%	2,937	3.5%
	HDGV	379,448	0.5%		762	1.4%	6,326	1.4%	1,768	2.1%
	LDDV	2,995,555	3.8%		1,275	2.3%	3,743	0.8%	3,657	4.3%
	LDDT	257,861	0.3%		141	0.3%	329	0.1%	374	0.4%
	HDDV	691,270	0.9%		1,077	1.9%	6,099	1.3%	6,576	7.8%
	MC	967,812	1.2%		5,818	10.4%	23,155	5.1%	942	1.1%
	Total:	79,712,326		23.0	56,027		457,060		84,748	
				Total Tons:	61.76		503.82		93.42	
							w/ Phase II RFG NOx Credit		86.42	

	kg	tons	pct.
Exhaust	37,803	41.67	67.5%
Evaporative	7,176	7.91	12.8%
Refueling	0	0.00	0.0%
Running Loss	7,594	8.37	13.6%
Resting Loss	3,455	3.81	6.2%

Phase II RFG NOx Credit calculated using MOBILE5b.
7/31/99

Philadelphia 5-County Area MOBILE Input Files
1999 Control Strategy Scenario

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Bucks County, 1999 Control Strategy w/o Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064      * Distribution by Vehicle
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004      * County:Bucks
 .004 .004 .003 .003 .012                               * Filename:     buckage.d
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .037 .059 .048 .075 .104 .100 .081 .093 .073 .056
 .032 .023 .023 .024 .039 .037 .023 .014 .013 .011
 .011 .007 .006 .003 .007
 .024 .036 .036 .062 .086 .088 .075 .083 .068 .050
 .030 .029 .028 .035 .045 .036 .027 .020 .023 .023
 .027 .019 .012 .013 .024
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004
 .004 .004 .003 .003 .012
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .037 .051 .041 .047 .047 .038 .050 .078 .070 .045
 .064 .432 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.        Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00        ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                           ATP Program
98 81 20 2221 11 096.                                    Pressure
98 81 20 2221 11 096.                                    Purge
4 99 56.1 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.859.042.030.006.037.004.010.012
4 99 56.0 84.8 20.6 27.3 20.6  7
```

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99 1 1
[A  91F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.857.043.030.006.037.004.011.012
4 99 54.2 90.8 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.888.028.020.004.038.003.007.012
4 99 55.9 94.2 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
4 99 58.9 80.0 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.860.042.029.006.037.004.010.012
4 99 48.0 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.872.036.025.005.038.003.009.012
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4 99 11.2 80.0 20.6 27.3 20.6  7
99 1 1
[A  93F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.916.015.010.002.039.001.004.013
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Bucks County, 1999 Control Strategy w/ Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064     * Distribution by Vehicle
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004     * County:Bucks
 .004 .004 .003 .003 .012                              * Filename:     buckage.d
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .037 .059 .048 .075 .104 .100 .081 .093 .073 .056
 .032 .023 .023 .024 .039 .037 .023 .014 .013 .011
 .011 .007 .006 .003 .007
 .024 .036 .036 .062 .086 .088 .075 .083 .068 .050
 .030 .029 .028 .035 .045 .036 .027 .020 .023 .023
 .027 .019 .012 .013 .024
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004
 .004 .004 .003 .003 .012
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .037 .051 .041 .047 .047 .038 .050 .078 .070 .045
 .064 .432 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.        Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00        ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                           ATP Program
98 75 20 2221 11 096.                                    Pressure
98 81 20 2221 11 096.                                    Purge
4 99 56.1 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.859.042.030.006.037.004.010.012
4 99 56.0 84.8 20.6 27.3 20.6  7
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99 1 1
[A  91F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.857.043.030.006.037.004.011.012
4 99 54.2 90.8 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.888.028.020.004.038.003.007.012
4 99 55.9 94.2 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
4 99 58.9 80.0 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.860.042.029.006.037.004.010.012
4 99 48.0 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.872.036.025.005.038.003.009.012
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4 99 11.2 80.0 20.6 27.3 20.6  7
99 1 1
[A  93F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.916.015.010.002.039.001.004.013
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Chester County, 1999 Control Strategy w/o Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058     * Distribution by Vehicle
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003     * County:Chester
 .004 .003 .003 .003 .011                              * Filename:     chesage.d
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .044 .059 .057 .080 .106 .107 .084 .095 .069 .050
 .030 .024 .021 .022 .037 .031 .021 .012 .009 .009
 .010 .008 .005 .003 .007
 .024 .039 .044 .062 .086 .087 .081 .083 .065 .044
 .035 .031 .032 .032 .045 .034 .029 .017 .021 .021
 .025 .017 .013 .013 .020
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003
 .004 .003 .003 .003 .011
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .030 .044 .040 .043 .042 .043 .043 .070 .068 .061
 .065 .451 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 81 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4 99 64.9 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.790.076.053.010.034.007.019.011
4 99 65.0 84.8 20.6 27.3 20.6  7
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```
99 1 1
[A 151F 1T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.794.074.052.010.034.007.018.011
4 99 64.9 90.8 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.824.059.041.008.036.005.015.012
4 99 64.9 94.2 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.811.066.046.009.035.006.016.011
4 99 65.0 80.0 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.733.104.073.014.031.009.026.010
4 99 54.1 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
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4 99 11.3 80.0 20.6 27.3 20.6  7
99 1 1
[A 153F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.902.021.015.003.039.002.005.013
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Chester County, 1999 Control Strategy w/ Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058     * Distribution by Vehicle
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003     * County:Chester
 .004 .003 .003 .003 .011                              * Filename:     chesage.d
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .044 .059 .057 .080 .106 .107 .084 .095 .069 .050
 .030 .024 .021 .022 .037 .031 .021 .012 .009 .009
 .010 .008 .005 .003 .007
 .024 .039 .044 .062 .086 .087 .081 .083 .065 .044
 .035 .031 .032 .032 .045 .034 .029 .017 .021 .021
 .025 .017 .013 .013 .020
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003
 .004 .003 .003 .003 .011
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .030 .044 .040 .043 .042 .043 .043 .070 .068 .061
 .065 .451 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.        Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00        ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                           ATP Program
98 75 20 2221 11 096.                                    Pressure
98 81 20 2221 11 096.                                    Purge
4 99 64.9 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.790.076.053.010.034.007.019.011
4 99 65.0 84.8 20.6 27.3 20.6  7
```

```
99 1 1
[A 151F 1T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.794.074.052.010.034.007.018.011
4 99 64.9 90.8 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.824.059.041.008.036.005.015.012
4 99 64.9 94.2 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.811.066.046.009.035.006.016.011
4 99 65.0 80.0 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.733.104.073.014.031.009.026.010
4 99 54.1 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
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4 99 11.3 80.0 20.6 27.3 20.6  7
99 1 1
[A 153F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.902.021.015.003.039.002.005.013
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Delaware County, 1999 Control Strategy w/o Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060     * Distribution by Vehicle
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004     * County:Delaware
 .004 .003 .002 .002 .008                              * Filename:     delaage.d
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .053 .076 .068 .092 .106 .093 .073 .089 .063 .052
 .033 .024 .018 .021 .039 .027 .018 .011 .008 .008
 .011 .005 .003 .003 .006
 .026 .042 .043 .061 .084 .094 .078 .081 .069 .048
 .032 .028 .027 .036 .047 .035 .026 .017 .023 .021
 .024 .014 .012 .011 .018
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004
 .004 .003 .002 .002 .008
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .034 .056 .043 .035 .045 .042 .054 .078 .066 .052
 .067 .428 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.        Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00        ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                           ATP Program
98 81 20 2221 11 096.                                    Pressure
98 81 20 2221 11 096.                                    Purge
4 99 55.0 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.849.047.033.006.037.004.012.012
4 99 54.8 84.8 20.6 27.3 20.6  7
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99 1 1
[A 231F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.847.048.033.007.037.004.012.012
4 99 52.6 90.8 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.883.031.022.004.038.003.007.012
4 99 54.7 94.2 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.832.055.039.007.036.005.014.012
4 99 58.6 80.0 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.852.046.032.006.037.004.011.012
4 99 44.6 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.926.010.007.001.040.001.002.013
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4 99 11.4 80.0 20.6 27.3 20.6  7
99 1 1
[A 233F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Delaware County, 1999 Control Strategy w/ Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060      * Distribution by Vehicle
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004      * County:Delaware
 .004 .003 .002 .002 .008                               * Filename:     delaage.d
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .053 .076 .068 .092 .106 .093 .073 .089 .063 .052
 .033 .024 .018 .021 .039 .027 .018 .011 .008 .008
 .011 .005 .003 .003 .006
 .026 .042 .043 .061 .084 .094 .078 .081 .069 .048
 .032 .028 .027 .036 .047 .035 .026 .017 .023 .021
 .024 .014 .012 .011 .018
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004
 .004 .003 .002 .002 .008
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .034 .056 .043 .035 .045 .042 .054 .078 .066 .052
 .067 .428 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 75 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4 99 55.0 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.849.047.033.006.037.004.012.012
4 99 54.8 84.8 20.6 27.3 20.6  7
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```
99 1 1
[A 231F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.847.048.033.007.037.004.012.012
4 99 52.6 90.8 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.883.031.022.004.038.003.007.012
4 99 54.7 94.2 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.832.055.039.007.036.005.014.012
4 99 58.6 80.0 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.852.046.032.006.037.004.011.012
4 99 44.6 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.926.010.007.001.040.001.002.013
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4 99 11.4 80.0 20.6 27.3 20.6  7
99 1 1
[A 233F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Montgomery County, 1999 Control Strategy w/o Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058     * Distribution by Vehicle
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003     * County:Montgomery
 .004 .003 .002 .003 .010                              * Filename:      montage.d
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .046 .058 .064 .085 .115 .097 .080 .095 .072 .050
 .032 .024 .021 .023 .038 .029 .020 .010 .009 .008
 .009 .006 .004 .003 .004
 .025 .038 .049 .066 .089 .098 .087 .089 .064 .053
 .031 .030 .029 .034 .041 .029 .026 .015 .019 .018
 .020 .015 .010 .009 .017
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003
 .004 .003 .002 .003 .010
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .050 .038 .040 .042 .036 .050 .075 .074 .052
 .067 .437 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 81 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4 99 54.6 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.866.039.027.005.037.004.010.012
4 99 54.4 84.8 20.6 27.3 20.6  7
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99 1 1
[A 461F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.865.039.028.005.037.004.010.012
4 99 52.0 90.8 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.891.026.019.004.038.003.006.013
4 99 54.3 94.2 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.853.045.032.006.037.004.011.012
4 99 58.5 80.0 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.867.038.027.005.037.004.010.012
4 99 47.3 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.887.029.020.004.038.003.007.012
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4 99 11.7 80.0 20.6 27.3 20.6  7
99 1 1
[A 463F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.873.036.025.005.037.003.009.012
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Montgomery County, 1999 Control Strategy w/ Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058      * Distribution by Vehicle
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003      * County:Montgomery
 .004 .003 .002 .003 .010                               * Filename:      montage.d
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .046 .058 .064 .085 .115 .097 .080 .095 .072 .050
 .032 .024 .021 .023 .038 .029 .020 .010 .009 .008
 .009 .006 .004 .003 .004
 .025 .038 .049 .066 .089 .098 .087 .089 .064 .053
 .031 .030 .029 .034 .041 .029 .026 .015 .019 .018
 .020 .015 .010 .009 .017
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003
 .004 .003 .002 .003 .010
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .050 .038 .040 .042 .036 .050 .075 .074 .052
 .067 .437 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 75 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4 99 54.6 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.866.039.027.005.037.004.010.012
4 99 54.4 84.8 20.6 27.3 20.6  7
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99 1 1
[A 461F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.865.039.028.005.037.004.010.012
4 99 52.0 90.8 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.891.026.019.004.038.003.006.013
4 99 54.3 94.2 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.853.045.032.006.037.004.011.012
4 99 58.5 80.0 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.867.038.027.005.037.004.010.012
4 99 47.3 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.887.029.020.004.038.003.007.012
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4 99 11.7 80.0 20.6 27.3 20.6  7
99 1 1
[A 463F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.873.036.025.005.037.003.009.012
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Philadelphia County, 1999 Control Strategy w/o Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077     * Distribution by Vehicle
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006     * County:Philadelphia
 .005 .004 .003 .003 .006                              * Filename:     philage.d
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .027 .059 .052 .076 .076 .082 .081 .092 .069 .052
 .037 .035 .032 .031 .046 .044 .024 .015 .012 .017
 .014 .009 .005 .003 .007
 .016 .036 .033 .041 .065 .074 .096 .076 .072 .048
 .044 .042 .034 .038 .052 .026 .022 .025 .042 .029
 .024 .016 .015 .020 .010
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006
 .005 .004 .003 .003 .006
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .051 .032 .039 .040 .042 .066 .076 .081 .055
 .062 .417 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 81 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4 99 48.5 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F11T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.814.064.045.009.035.006.016.011
4 99 53.5 84.8 20.6 27.3 20.6  7
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99 1 1
[A 673F11T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.837.053.037.007.036.005.013.012
4 99 36.4 90.8 20.6 27.3 20.6  7
99 1 1
[A 673F11T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.851.046.032.006.037.004.012.012
4 99 48.4 94.2 20.6 27.3 20.6  7
99 1 1
[A 673F11T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.829.057.040.008.036.005.014.011
4 99 63.6 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F11T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.738.101.071.014.032.009.025.010
4 99 59.2 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F12T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.896.025.017.003.039.002.006.012
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4 99 11.2 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Philadelphia County, 1999 Control Strategy w/ Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077      * Distribution by Vehicle
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006      * County:Philadelphia
 .005 .004 .003 .003 .006                               * Filename:      philage.d
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .027 .059 .052 .076 .076 .082 .081 .092 .069 .052
 .037 .035 .032 .031 .046 .044 .024 .015 .012 .017
 .014 .009 .005 .003 .007
 .016 .036 .033 .041 .065 .074 .096 .076 .072 .048
 .044 .042 .034 .038 .052 .026 .022 .025 .042 .029
 .024 .016 .015 .020 .010
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006
 .005 .004 .003 .003 .006
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .051 .032 .039 .040 .042 .066 .076 .081 .055
 .062 .417 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 75 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4 99 48.5 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F11T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.814.064.045.009.035.006.016.011
4 99 53.5 84.8 20.6 27.3 20.6  7
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99 1 1
[A 673F11T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.837.053.037.007.036.005.013.012
4 99 36.4 90.8 20.6 27.3 20.6  7
99 1 1
[A 673F11T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.851.046.032.006.037.004.012.012
4 99 48.4 94.2 20.6 27.3 20.6  7
99 1 1
[A 673F11T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.829.057.040.008.036.005.014.011
4 99 63.6 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F11T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.738.101.071.014.032.009.025.010
4 99 59.2 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F12T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.896.025.017.003.039.002.006.012
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4 99 11.2 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
```

Philadelphia 5-County Area MOBILE Input Files
2002 Control Strategy Scenario

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Bucks County, 2002 Control Strategy w/o Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064     * Distribution by Vehicle
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004     * County:Bucks
 .004 .004 .003 .003 .012                              * Filename:     buckage.d
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .037 .059 .048 .075 .104 .100 .081 .093 .073 .056
 .032 .023 .023 .024 .039 .037 .023 .014 .013 .011
 .011 .007 .006 .003 .007
 .024 .036 .036 .062 .086 .088 .075 .083 .068 .050
 .030 .029 .028 .035 .045 .036 .027 .020 .023 .023
 .027 .019 .012 .013 .024
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004
 .004 .004 .003 .003 .012
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .037 .051 .041 .047 .047 .038 .050 .078 .070 .045
 .064 .432 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.     Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00     ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                        ATP Program
98 81 20 2221 11 096.                                 Pressure
98 81 20 2221 11 096.                                 Purge
4  2 55.9 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.859.042.030.006.037.004.010.012
4  2 55.7 84.8 20.6 27.3 20.6  7
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99 1 1
[A  91F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.857.043.030.006.037.004.011.012
4  2 53.8 90.8 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.888.028.020.004.038.003.007.012
4  2 55.7 94.2 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
4  2 58.8 80.0 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.860.042.029.006.037.004.010.012
4  2 47.8 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.872.036.025.005.038.003.009.012
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4  2 11.0 80.0 20.6 27.3 20.6  7
99 1 1
[A  93F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.916.015.010.002.039.001.004.013
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Bucks County, 2002 Control Strategy w/ Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064     * Distribution by Vehicle
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004     * County:Bucks
 .004 .004 .003 .003 .012                              * Filename:     buckage.d
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .037 .059 .048 .075 .104 .100 .081 .093 .073 .056
 .032 .023 .023 .024 .039 .037 .023 .014 .013 .011
 .011 .007 .006 .003 .007
 .024 .036 .036 .062 .086 .088 .075 .083 .068 .050
 .030 .029 .028 .035 .045 .036 .027 .020 .023 .023
 .027 .019 .012 .013 .024
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004
 .004 .004 .003 .003 .012
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .037 .051 .041 .047 .047 .038 .050 .078 .070 .045
 .064 .432 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.     Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00     ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                        ATP Program
98 75 20 2221 11 096.                                 Pressure
98 81 20 2221 11 096.                                 Purge
4  2 55.9 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.859.042.030.006.037.004.010.012
4  2 55.7 84.8 20.6 27.3 20.6  7
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99 1 1
[A  91F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.857.043.030.006.037.004.011.012
4  2 53.8 90.8 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.888.028.020.004.038.003.007.012
4  2 55.7 94.2 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
4  2 58.8 80.0 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.860.042.029.006.037.004.010.012
4  2 47.8 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.872.036.025.005.038.003.009.012
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4  2 11.0 80.0 20.6 27.3 20.6  7
99 1 1
[A  93F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.916.015.010.002.039.001.004.013
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Chester County, 2002 Control Strategy w/o Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058     * Distribution by Vehicle
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003     * County:Chester
 .004 .003 .003 .003 .011                              * Filename:     chesage.d
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .044 .059 .057 .080 .106 .107 .084 .095 .069 .050
 .030 .024 .021 .022 .037 .031 .021 .012 .009 .009
 .010 .008 .005 .003 .007
 .024 .039 .044 .062 .086 .087 .081 .083 .065 .044
 .035 .031 .032 .032 .045 .034 .029 .017 .021 .021
 .025 .017 .013 .013 .020
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003
 .004 .003 .003 .003 .011
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .030 .044 .040 .043 .042 .043 .043 .070 .068 .061
 .065 .451 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 81 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4  2 64.9 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.790.076.053.010.034.007.019.011
4  2 65.0 84.8 20.6 27.3 20.6  7
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99 1 1
[A 151F 1T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.794.074.052.010.034.007.018.011
4  2 64.8 90.8 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.824.059.041.008.036.005.015.012
4  2 64.9 94.2 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.811.066.046.009.035.006.016.011
4  2 65.0 80.0 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.733.104.073.014.031.009.026.010
4  2 53.4 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
4  2 53.1 84.8 20.6 27.3 20.6  7
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4  2 11.1 80.0 20.6 27.3 20.6  7
99 1 1
[A 153F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.902.021.015.003.039.002.005.013
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Chester County, 2002 Control Strategy w/ Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058     * Distribution by Vehicle
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003     * County:Chester
 .004 .003 .003 .003 .011                              * Filename:     chesage.d
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .044 .059 .057 .080 .106 .107 .084 .095 .069 .050
 .030 .024 .021 .022 .037 .031 .021 .012 .009 .009
 .010 .008 .005 .003 .007
 .024 .039 .044 .062 .086 .087 .081 .083 .065 .044
 .035 .031 .032 .032 .045 .034 .029 .017 .021 .021
 .025 .017 .013 .013 .020
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003
 .004 .003 .003 .003 .011
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .030 .044 .040 .043 .042 .043 .043 .070 .068 .061
 .065 .451 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 75 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4  2 64.9 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.790.076.053.010.034.007.019.011
4  2 65.0 84.8 20.6 27.3 20.6  7
```

```
99 1 1
[A 151F 1T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.794.074.052.010.034.007.018.011
4  2 64.8 90.8 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.824.059.041.008.036.005.015.012
4  2 64.9 94.2 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.811.066.046.009.035.006.016.011
4  2 65.0 80.0 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.733.104.073.014.031.009.026.010
4  2 53.4 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
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4  2 11.1 80.0 20.6 27.3 20.6  7
99 1 1
[A 153F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.902.021.015.003.039.002.005.013
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Delaware County, 2002 Control Strategy w/o Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060     * Distribution by Vehicle
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004     * County:Delaware
 .004 .003 .002 .002 .008                              * Filename:     delaage.d
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .053 .076 .068 .092 .106 .093 .073 .089 .063 .052
 .033 .024 .018 .021 .039 .027 .018 .011 .008 .008
 .011 .005 .003 .003 .006
 .026 .042 .043 .061 .084 .094 .078 .081 .069 .048
 .032 .028 .027 .036 .047 .035 .026 .017 .023 .021
 .024 .014 .012 .011 .018
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004
 .004 .003 .002 .002 .008
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .034 .056 .043 .035 .045 .042 .054 .078 .066 .052
 .067 .428 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 81 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4  2 54.7 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.849.047.033.006.037.004.012.012
4  2 54.5 84.8 20.6 27.3 20.6  7
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99 1 1
[A 231F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.847.048.033.007.037.004.012.012
4  2 52.1 90.8 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.883.031.022.004.038.003.007.012
4  2 54.4 94.2 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.832.055.039.007.036.005.014.012
4  2 58.5 80.0 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.852.046.032.006.037.004.011.012
4  2 44.2 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.926.010.007.001.040.001.002.013
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4  2 11.3 80.0 20.6 27.3 20.6  7
99 1 1
[A 233F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Delaware County, 2002 Control Strategy w/ Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060      * Distribution by Vehicle
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004      * County:Delaware
 .004 .003 .002 .002 .008                               * Filename:      delaage.d
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .053 .076 .068 .092 .106 .093 .073 .089 .063 .052
 .033 .024 .018 .021 .039 .027 .018 .011 .008 .008
 .011 .005 .003 .003 .006
 .026 .042 .043 .061 .084 .094 .078 .081 .069 .048
 .032 .028 .027 .036 .047 .035 .026 .017 .023 .021
 .024 .014 .012 .011 .018
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004
 .004 .003 .002 .002 .008
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .034 .056 .043 .035 .045 .042 .054 .078 .066 .052
 .067 .428 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.        Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00        ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                           ATP Program
98 75 20 2221 11 096.                                    Pressure
98 81 20 2221 11 096.                                    Purge
4  2 54.7 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.849.047.033.006.037.004.012.012
4  2 54.5 84.8 20.6 27.3 20.6  7
```

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99 1 1
[A 231F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.847.048.033.007.037.004.012.012
4  2 52.1 90.8 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.883.031.022.004.038.003.007.012
4  2 54.4 94.2 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.832.055.039.007.036.005.014.012
4  2 58.5 80.0 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.852.046.032.006.037.004.011.012
4  2 44.2 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.926.010.007.001.040.001.002.013
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4  2 11.3 80.0 20.6 27.3 20.6  7
99 1 1
[A 233F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Montgomery County, 2002 Control Strategy w/o Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058     * Distribution by Vehicle
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003     * County:Montgomery
 .004 .003 .002 .003 .010                              * Filename:     montage.d
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .046 .058 .064 .085 .115 .097 .080 .095 .072 .050
 .032 .024 .021 .023 .038 .029 .020 .010 .009 .008
 .009 .006 .004 .003 .004
 .025 .038 .049 .066 .089 .098 .087 .089 .064 .053
 .031 .030 .029 .034 .041 .029 .026 .015 .019 .018
 .020 .015 .010 .009 .017
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003
 .004 .003 .002 .003 .010
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .050 .038 .040 .042 .036 .050 .075 .074 .052
 .067 .437 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.     Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00     ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                        ATP Program
98 81 20 2221 11 096.                                 Pressure
98 81 20 2221 11 096.                                 Purge
4  2 54.3 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.866.039.027.005.037.004.010.012
4  2 54.0 84.8 20.6 27.3 20.6  7
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99 1 1
[A 461F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.865.039.028.005.037.004.010.012
4  2 51.5 90.8 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.891.026.019.004.038.003.006.013
4  2 54.0 94.2 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.853.045.032.006.037.004.011.012
4  2 58.4 80.0 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.867.038.027.005.037.004.010.012
4  2 47.1 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.887.029.020.004.038.003.007.012
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4  2 11.6 80.0 20.6 27.3 20.6  7
99 1 1
[A 463F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.873.036.025.005.037.003.009.012
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Montgomery County, 2002 Control Strategy w/ Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058     * Distribution by Vehicle
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003     * County:Montgomery
 .004 .003 .002 .003 .010                              * Filename:     montage.d
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .046 .058 .064 .085 .115 .097 .080 .095 .072 .050
 .032 .024 .021 .023 .038 .029 .020 .010 .009 .008
 .009 .006 .004 .003 .004
 .025 .038 .049 .066 .089 .098 .087 .089 .064 .053
 .031 .030 .029 .034 .041 .029 .026 .015 .019 .018
 .020 .015 .010 .009 .017
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003
 .004 .003 .002 .003 .010
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .050 .038 .040 .042 .036 .050 .075 .074 .052
 .067 .437 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.     Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00     ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                        ATP Program
98 75 20 2221 11 096.                                 Pressure
98 81 20 2221 11 096.                                 Purge
4  2 54.3 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.866.039.027.005.037.004.010.012
4  2 54.0 84.8 20.6 27.3 20.6  7
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```
99 1 1
[A 461F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.865.039.028.005.037.004.010.012
4  2 51.5 90.8 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.891.026.019.004.038.003.006.013
4  2 54.0 94.2 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.853.045.032.006.037.004.011.012
4  2 58.4 80.0 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.867.038.027.005.037.004.010.012
4  2 47.1 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.887.029.020.004.038.003.007.012
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4  2 11.6 80.0 20.6 27.3 20.6  7
99 1 1
[A 463F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.873.036.025.005.037.003.009.012
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Philadelphia County, 2002 Conrtol Strategy w/o Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077      * Distribution by Vehicle
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006      * County:Philadelphia
 .005 .004 .003 .003 .006                               * Filename:     philage.d
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .027 .059 .052 .076 .076 .082 .081 .092 .069 .052
 .037 .035 .032 .031 .046 .044 .024 .015 .012 .017
 .014 .009 .005 .003 .007
 .016 .036 .033 .041 .065 .074 .096 .076 .072 .048
 .044 .042 .034 .038 .052 .026 .022 .025 .042 .029
 .024 .016 .015 .020 .010
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006
 .005 .004 .003 .003 .006
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .051 .032 .039 .040 .042 .066 .076 .081 .055
 .062 .417 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.        Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00        ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                           ATP Program
98 81 20 2221 11 096.                                    Pressure
98 81 20 2221 11 096.                                    Purge
4  2 47.6 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F11T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.814.064.045.009.035.006.016.011
4  2 52.9 84.8 20.6 27.3 20.6  7
```

```
99 1 1
[A 673F11T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.837.053.037.007.036.005.013.012
4  2 35.2 90.8 20.6 27.3 20.6  7
99 1 1
[A 673F11T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.851.046.032.006.037.004.012.012
4  2 47.5 94.2 20.6 27.3 20.6  7
99 1 1
[A 673F11T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.829.057.040.008.036.005.014.011
4  2 63.5 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F11T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.738.101.071.014.032.009.025.010
4  2 58.9 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F12T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.896.025.017.003.039.002.006.012

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4  2 11.2 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Philadelphia County, 2002 Control Strategy w/ Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077      * Distribution by Vehicle
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006      * County:Philadelphia
 .005 .004 .003 .003 .006                               * Filename:     philage.d
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .027 .059 .052 .076 .076 .082 .081 .092 .069 .052
 .037 .035 .032 .031 .046 .044 .024 .015 .012 .017
 .014 .009 .005 .003 .007
 .016 .036 .033 .041 .065 .074 .096 .076 .072 .048
 .044 .042 .034 .038 .052 .026 .022 .025 .042 .029
 .024 .016 .015 .020 .010
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006
 .005 .004 .003 .003 .006
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .051 .032 .039 .040 .042 .066 .076 .081 .055
 .062 .417 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 75 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4  2 47.6 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F11T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.814.064.045.009.035.006.016.011
4  2 52.9 84.8 20.6 27.3 20.6  7
```

```
99 1 1
[A 673F11T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.837.053.037.007.036.005.013.012
4  2 35.2 90.8 20.6 27.3 20.6  7
99 1 1
[A 673F11T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.851.046.032.006.037.004.012.012
4  2 47.5 94.2 20.6 27.3 20.6  7
99 1 1
[A 673F11T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.829.057.040.008.036.005.014.011
4  2 63.5 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F11T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.738.101.071.014.032.009.025.010
4  2 58.9 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F12T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.896.025.017.003.039.002.006.012
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4  2 11.2 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
```

Philadelphia 5-County Area MOBILE Input Files
2005 Control Strategy Scenario

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Buck County, Control Strategy w/o Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064      * Distribution by Vehicle
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004      * County:Bucks
 .004 .004 .003 .003 .012                               * Filename:     buckage.d
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .037 .059 .048 .075 .104 .100 .081 .093 .073 .056
 .032 .023 .023 .024 .039 .037 .023 .014 .013 .011
 .011 .007 .006 .003 .007
 .024 .036 .036 .062 .086 .088 .075 .083 .068 .050
 .030 .029 .028 .035 .045 .036 .027 .020 .023 .023
 .027 .019 .012 .013 .024
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004
 .004 .004 .003 .003 .012
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .037 .051 .041 .047 .047 .038 .050 .078 .070 .045
 .064 .432 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
001
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.        Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00        ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                           ATP Program
98 81 20 2221 11 096.                                    Pressure
98 81 20 2221 11 096.                                    Purge
4  5 55.6 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.859.042.030.006.037.004.010.012
4  5 55.4 84.8 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 1   ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.857.043.030.006.037.004.011.012
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```
4  5 53.5 90.8 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 2   ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.888.028.020.004.038.003.007.012
4  5 55.4 94.2 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 3   ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
4  5 58.8 80.0 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 4   ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.860.042.029.006.037.004.010.012
4  5 47.7 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.872.036.025.005.038.003.009.012
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4  5 10.9 80.0 20.6 27.3 20.6  7
99 1 1
[A  93F19T 4   ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.916.015.010.002.039.001.004.013
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Bucks County, 2005 Control Strategy w/ Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064      * Distribution by Vehicle
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004      * County:Bucks
 .004 .004 .003 .003 .012                               * Filename:     buckage.d
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .037 .059 .048 .075 .104 .100 .081 .093 .073 .056
 .032 .023 .023 .024 .039 .037 .023 .014 .013 .011
 .011 .007 .006 .003 .007
 .024 .036 .036 .062 .086 .088 .075 .083 .068 .050
 .030 .029 .028 .035 .045 .036 .027 .020 .023 .023
 .027 .019 .012 .013 .024
 .039 .073 .076 .084 .090 .098 .098 .092 .077 .064
 .039 .029 .023 .021 .024 .018 .013 .008 .004 .004
 .004 .004 .003 .003 .012
 .033 .052 .056 .064 .086 .094 .092 .104 .074 .060
 .044 .031 .028 .026 .041 .032 .024 .014 .008 .009
 .006 .007 .005 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .037 .051 .041 .047 .047 .038 .050 .078 .070 .045
 .064 .432 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 75 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4  5 55.6 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.859.042.030.006.037.004.010.012
4  5 55.4 84.8 20.6 27.3 20.6  7
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99 1 1
[A  91F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.857.043.030.006.037.004.011.012
4  5 53.5 90.8 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.888.028.020.004.038.003.007.012
4  5 55.4 94.2 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
4  5 58.8 80.0 20.6 27.3 20.6  7
99 1 1
[A  91F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.860.042.029.006.037.004.010.012
4  5 47.7 87.7 20.6 27.3 20.6  7
99 1 1
[A  91F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.872.036.025.005.038.003.009.012
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4  5 10.9 80.0 20.6 27.3 20.6  7
99 1 1
[A  93F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.916.015.010.002.039.001.004.013
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Chester County, Control Strategy w/o Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058     * Distribution by Vehicle
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003     * County:Chester
 .004 .003 .003 .003 .011                              * Filename:     chesage.d
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .044 .059 .057 .080 .106 .107 .084 .095 .069 .050
 .030 .024 .021 .022 .037 .031 .021 .012 .009 .009
 .010 .008 .005 .003 .007
 .024 .039 .044 .062 .086 .087 .081 .083 .065 .044
 .035 .031 .032 .032 .045 .034 .029 .017 .021 .021
 .025 .017 .013 .013 .020
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003
 .004 .003 .003 .003 .011
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .030 .044 .040 .043 .042 .043 .043 .070 .068 .061
 .065 .451 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
001
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.        Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00        ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                           ATP Program
98 81 20 2221 11 096.                                    Pressure
98 81 20 2221 11 096.                                    Purge
4  5 64.9 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.790.076.053.010.034.007.019.011
4  5 65.0 84.8 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 1   ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.794.074.052.010.034.007.018.011
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4  5 64.8 90.8 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.824.059.041.008.036.005.015.012
4  5 64.9 94.2 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.811.066.046.009.035.006.016.011
4  5 65.0 80.0 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.733.104.073.014.031.009.026.010
4  5 52.7 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
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4  5 11.0 80.0 20.6 27.3 20.6  7
99 1 1
[A 153F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.902.021.015.003.039.002.005.013
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Chester County, 2005 Control Strategy w/o Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058      * Distribution by Vehicle
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003      * County:Chester
 .004 .003 .003 .003 .011                               * Filename:      chesage.d
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .044 .059 .057 .080 .106 .107 .084 .095 .069 .050
 .030 .024 .021 .022 .037 .031 .021 .012 .009 .009
 .010 .008 .005 .003 .007
 .024 .039 .044 .062 .086 .087 .081 .083 .065 .044
 .035 .031 .032 .032 .045 .034 .029 .017 .021 .021
 .025 .017 .013 .013 .020
 .051 .082 .085 .092 .095 .103 .099 .091 .070 .058
 .034 .025 .020 .018 .018 .013 .009 .006 .004 .003
 .004 .003 .003 .003 .011
 .038 .062 .063 .068 .087 .100 .095 .103 .068 .058
 .040 .027 .026 .024 .037 .030 .021 .011 .007 .007
 .005 .006 .004 .004 .009
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .030 .044 .040 .043 .042 .043 .043 .070 .068 .061
 .065 .451 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.        Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00        ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                           ATP Program
98 75 20 2221 11 096.                                    Pressure
98 81 20 2221 11 096.                                    Purge
4  5 64.9 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.790.076.053.010.034.007.019.011
4  5 65.0 84.8 20.6 27.3 20.6  7
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99 1 1
[A 151F 1T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.794.074.052.010.034.007.018.011
4  5 64.8 90.8 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.824.059.041.008.036.005.015.012
4  5 64.9 94.2 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.811.066.046.009.035.006.016.011
4  5 65.0 80.0 20.6 27.3 20.6  7
99 1 1
[A 151F 1T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.733.104.073.014.031.009.026.010
4  5 52.7 87.7 20.6 27.3 20.6  7
99 1 1
[A 151F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.844.050.035.007.036.004.012.012
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4  5 11.0 80.0 20.6 27.3 20.6  7
99 1 1
[A 153F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.902.021.015.003.039.002.005.013
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Delaware County, 2005 Control Strategy w/o Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060      * Distribution by Vehicle
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004      * County:Delaware
 .004 .003 .002 .002 .008                               * Filename:      delaage.d
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .053 .076 .068 .092 .106 .093 .073 .089 .063 .052
 .033 .024 .018 .021 .039 .027 .018 .011 .008 .008
 .011 .005 .003 .003 .006
 .026 .042 .043 .061 .084 .094 .078 .081 .069 .048
 .032 .028 .027 .036 .047 .035 .026 .017 .023 .021
 .024 .014 .012 .011 .018
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004
 .004 .003 .002 .002 .008
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .034 .056 .043 .035 .045 .042 .054 .078 .066 .052
 .067 .428 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 81 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4  5 54.4 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.849.047.033.006.037.004.012.012
4  5 54.1 84.8 20.6 27.3 20.6  7
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99 1 1
[A 231F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.847.048.033.007.037.004.012.012
4  5 51.6 90.8 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.883.031.022.004.038.003.007.012
4  5 54.1 94.2 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.832.055.039.007.036.005.014.012
4  5 58.4 80.0 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.852.046.032.006.037.004.011.012
4  5 43.9 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.926.010.007.001.040.001.002.013

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4  5 11.2 80.0 20.6 27.3 20.6  7
99 1 1
[A 233F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Delaware County, 2005 Control Strategy w/ Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060     * Distribution by Vehicle
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004     * County:Delaware
 .004 .003 .002 .002 .008                              * Filename:     delaage.d
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .053 .076 .068 .092 .106 .093 .073 .089 .063 .052
 .033 .024 .018 .021 .039 .027 .018 .011 .008 .008
 .011 .005 .003 .003 .006
 .026 .042 .043 .061 .084 .094 .078 .081 .069 .048
 .032 .028 .027 .036 .047 .035 .026 .017 .023 .021
 .024 .014 .012 .011 .018
 .065 .093 .084 .083 .087 .087 .089 .084 .071 .060
 .038 .027 .023 .021 .023 .017 .012 .008 .004 .004
 .004 .003 .002 .002 .008
 .043 .061 .069 .068 .083 .087 .091 .103 .068 .060
 .040 .030 .027 .024 .040 .029 .022 .014 .008 .008
 .007 .005 .004 .003 .007
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .034 .056 .043 .035 .045 .042 .054 .078 .066 .052
 .067 .428 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 75 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4  5 54.4 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.849.047.033.006.037.004.012.012
4  5 54.1 84.8 20.6 27.3 20.6  7
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99 1 1
[A 231F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.847.048.033.007.037.004.012.012
4  5 51.6 90.8 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.883.031.022.004.038.003.007.012
4  5 54.1 94.2 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.832.055.039.007.036.005.014.012
4  5 58.4 80.0 20.6 27.3 20.6  7
99 1 1
[A 231F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.852.046.032.006.037.004.011.012
4  5 43.9 87.7 20.6 27.3 20.6  7
99 1 1
[A 231F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.926.010.007.001.040.001.002.013
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4  5 11.2 80.0 20.6 27.3 20.6  7
99 1 1
[A 233F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
```

```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Montgomery County, 2005 Control Strategy w/o Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058      * Distribution by Vehicle
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003      * County:Montgomery
 .004 .003 .002 .003 .010                               * Filename:     montage.d
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .046 .058 .064 .085 .115 .097 .080 .095 .072 .050
 .032 .024 .021 .023 .038 .029 .020 .010 .009 .008
 .009 .006 .004 .003 .004
 .025 .038 .049 .066 .089 .098 .087 .089 .064 .053
 .031 .030 .029 .034 .041 .029 .026 .015 .019 .018
 .020 .015 .010 .009 .017
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003
 .004 .003 .002 .003 .010
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .050 .038 .040 .042 .036 .050 .075 .074 .052
 .067 .437 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 81 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4  5 54.0 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.866.039.027.005.037.004.010.012
4  5 53.7 84.8 20.6 27.3 20.6  7
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99 1 1
[A 461F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.865.039.028.005.037.004.010.012
4  5 51.1 90.8 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.891.026.019.004.038.003.006.013
4  5 53.6 94.2 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.853.045.032.006.037.004.011.012
4  5 58.3 80.0 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.867.038.027.005.037.004.010.012
4  5 47.0 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.887.029.020.004.038.003.007.012
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4  5 11.6 80.0 20.6 27.3 20.6  7
99 1 1
[A 463F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.873.036.025.005.037.003.009.012
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5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Montgomery County, 2005 Control Strategy w/ Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058      * Distribution by Vehicle
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003      * County:Montgomery
 .004 .003 .002 .003 .010                               * Filename:      montage.d
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .046 .058 .064 .085 .115 .097 .080 .095 .072 .050
 .032 .024 .021 .023 .038 .029 .020 .010 .009 .008
 .009 .006 .004 .003 .004
 .025 .038 .049 .066 .089 .098 .087 .089 .064 .053
 .031 .030 .029 .034 .041 .029 .026 .015 .019 .018
 .020 .015 .010 .009 .017
 .052 .087 .086 .093 .095 .095 .097 .088 .071 .058
 .035 .025 .020 .018 .020 .015 .010 .006 .004 .003
 .004 .003 .002 .003 .010
 .041 .059 .059 .071 .089 .090 .091 .101 .072 .059
 .041 .030 .026 .024 .038 .030 .022 .014 .008 .008
 .006 .006 .004 .004 .008
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .050 .038 .040 .042 .036 .050 .075 .074 .052
 .067 .437 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 75 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4  5 54.0 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.866.039.027.005.037.004.010.012
4  5 53.7 84.8 20.6 27.3 20.6  7
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99 1 1
[A 461F 2T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.865.039.028.005.037.004.010.012
4  5 51.1 90.8 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.891.026.019.004.038.003.006.013
4  5 53.6 94.2 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
..853.045.032.006.037.004.011.012
4  5 58.3 80.0 20.6 27.3 20.6  7
99 1 1
[A 461F 2T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.867.038.027.005.037.004.010.012
4  5 47.0 87.7 20.6 27.3 20.6  7
99 1 1
[A 461F 6T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.887.029.020.004.038.003.007.012
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4  5 11.6 80.0 20.6 27.3 20.6  7
99 1 1
[A 463F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.873.036.025.005.037.003.009.012
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```
5      PROMPT [LITE1 VERSION 3.20 ] [M5INPUT ]
Philadeplhia County, 2005 Control Strategy w/o Gas Cap Pressure Check
1    tamflg
1    spdflg
2    vmflag
3    mymrfg
2    newflg
32       imflag
1    alhflg
8    atpflg
5    rlflag
1    locflg -- Must be 1
1    temflg
3    outfmt -- Must be 3; Overridden by PPAQ1
4    prtflg
1    idlflg
3    nmhflg
3    hcflag
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077     * Distribution by Vehicle
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006     * County:Philadelphia
 .005 .004 .003 .003 .006                              * Filename:     philage.d
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .027 .059 .052 .076 .076 .082 .081 .092 .069 .052
 .037 .035 .032 .031 .046 .044 .024 .015 .012 .017
 .014 .009 .005 .003 .007
 .016 .036 .033 .041 .065 .074 .096 .076 .072 .048
 .044 .042 .034 .038 .052 .026 .022 .025 .042 .029
 .024 .016 .015 .020 .010
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006
 .005 .004 .003 .003 .006
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .051 .032 .039 .040 .042 .066 .076 .081 .055
 .062 .417 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 81 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4  5 46.7 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F11T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.814.064.045.009.035.006.016.011
4  5 52.2 84.8 20.6 27.3 20.6  7
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99 1 1
[A 673F11T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.837.053.037.007.036.005.013.012
4  5 34.0 90.8 20.6 27.3 20.6  7
99 1 1
[A 673F11T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.851.046.032.006.037.004.012.012
4  5 46.6 94.2 20.6 27.3 20.6  7
99 1 1
[A 673F11T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.829.057.040.008.036.005.014.011
4  5 63.4 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F11T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.738.101.071.014.032.009.025.010
4  5 58.5 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F12T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.896.025.017.003.039.002.006.012
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4  5 11.2 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
```

```
5       PROMPT [LITE1 VERSION 3.20 ] [M5INPUTB]
Philadelphia County, 2005 Control Strategy w/ Gas Cap Pressure Check
1     tamflg
1     spdflg
2     vmflag
3     mymrfg
2     newflg
32        imflag
1     alhflg
8     atpflg
5     rlflag
1     locflg -- Must be 1
1     temflg
3     outfmt -- Must be 3; Overridden by PPAQ1
4     prtflg
1     idlflg
3     nmhflg
3     hcflag
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077      * Distribution by Vehicle
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006      * County:Philadelphia
 .005 .004 .003 .003 .006                               * Filename:     philage.d
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .027 .059 .052 .076 .076 .082 .081 .092 .069 .052
 .037 .035 .032 .031 .046 .044 .024 .015 .012 .017
 .014 .009 .005 .003 .007
 .016 .036 .033 .041 .065 .074 .096 .076 .072 .048
 .044 .042 .034 .038 .052 .026 .022 .025 .042 .029
 .024 .016 .015 .020 .010
 .037 .054 .056 .064 .070 .080 .085 .088 .081 .077
 .053 .042 .038 .035 .038 .031 .023 .014 .007 .006
 .005 .004 .003 .003 .006
 .024 .039 .043 .051 .062 .070 .076 .092 .072 .066
 .052 .040 .036 .039 .058 .046 .035 .023 .016 .015
 .011 .008 .006 .007 .011
 .034 .067 .067 .067 .067 .073 .061 .040 .041 .051
 .053 .066 .055 .057 .045 .019 .023 .028 .024 .016
 .011 .009 .007 .005 .016
 .039 .051 .032 .039 .040 .042 .066 .076 .081 .055
 .062 .417 .000 .000 .000 .000 .000 .000 .000 .000
 .000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 20 01.840 00.000
84 20 75 80  3  3 096 1 1 2221 1211 220. 1.20 999.      Existing I/M Record
84 20 81 20  3  3 096 1 1 2221 3211 50.0 15.0 1.00      ASM Final Cutpoints
98 75 20 2221 11 096. 22212222                         ATP Program
98 75 20 2221 11 096.                                  Pressure
98 81 20 2221 11 096.                                  Purge
4  5 46.7 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F11T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.814.064.045.009.035.006.016.011
4  5 52.2 84.8 20.6 27.3 20.6  7
```

```
99 1 1
[A 673F11T 1    ] C 79.8 87.3  8.7  8.7 20 1 1 2 1
.837.053.037.007.036.005.013.012
4  5 34.0 90.8 20.6 27.3 20.6  7
99 1 1
[A 673F11T 2    ] C 87.3 92.5  8.7  8.7 20 1 1 2 1
.851.046.032.006.037.004.012.012
4  5 46.6 94.2 20.6 27.3 20.6  7
99 1 1
[A 673F11T 3    ] C 90.5 96.0  8.7  8.7 20 1 1 2 1
.829.057.040.008.036.005.014.011
4  5 63.4 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F11T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.738.101.071.014.032.009.025.010
4  5 58.5 87.7 20.6 27.3 20.6  7
99 1 1
[A 673F12T 24HR] C 71.0 96.0  8.7  8.7 20 1 1 2 1
.896.025.017.003.039.002.006.012
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4  5 11.2 80.0 20.6 27.3 20.6  7
99 1 1
[A 673F19T 4    ] C 71.0 84.5  8.7  8.7 20 1 1 2 1
.903.021.014.003.039.002.005.013
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